$5.8 Billion and Change

An Exploration of the Long-Term Budgetary Impact of Trends Affecting the Commonwealth

Peter Schirmer, Michael T. Childress, Charles C. Nett

March 1996

THE KENTUCKY LONG-TERM POLICY RESEARCH CENTER

Published By:

THE KENTUCKY LONG-TERM POLICY RESEARCH CENTER
1024 Capital Center Drive, Suite 310
Frankfort, Kentucky 40601

March 1996

Library of Congress
Catalog Card Number: 95-81884

printed with state funds
available in alternative format upon request

THE KENTUCKY LONG-TERM POLICY RESEARCH CENTER

BOARD OF DIRECTORS

PAUL B. COOK, CHAIR
SEN. NICK KAFOGLIS, VICE CHAIR

EXECUTIVE BRANCH
RONALD J. CARSON
DIANE HANCOCK
WILLIAM H. HINTZE, JR.
DONNA B. MOLONEY

LEGISLATIVE BRANCH
SEN. CHARLIE BORDERS
SEN. TOM BUFORD
REP. DREW GRAHAM
REP. STEVE NUNN
REP. ERNESTO SCORSONE

AT-LARGE MEMBERS
CHARLIE BEACH III
FORREST W. CALICO
JANIE DOUGLASS
BETTY GRIFFIN
VIC HELLARD, JR.
ROBERT T. MCCOWAN
MARY HELEN MILLER
PENNY MILLER
ROBERT SEXTON
ALAYNE L. WHITE

EXECUTIVE DIRECTOR
MICHAEL T. CHILDRESS

The Kentucky Long-Term Policy Research Center was created by the General Assembly in 1992 to bring a broader context to the decision-making process. The Center's mission is to illuminate the long-range implications of current policies, emerging issues, and trends influencing the Commonwealth's future. The Center has a responsibility to identify and study issues of long-term significance to the Commonwealth and to serve as a mechanism for coordinating resources and groups to focus on long-range planning.

Preface

The Kentucky Long-Term Policy Research Center is engaged in a continuing effort to understand the future implications of an array of trends affecting the Commonwealth. In this report we examine social, economic and demographic trends which will affect the state budget over the next decade, we explore alternative budget scenarios and we recommend ways of improving Kentucky's fiscal future. This report should be of interest to the expert, but it was written with the average citizen in mind. We have tried to make the rather difficult topic of state finance accessible and understandable to people who are interested in knowing how their taxes are being spent and how they may be spent in years to come.

THE KENTUCKY LONG-TERM POLICY RESEARCH CENTER

The Kentucky Long-Term Policy Research Center was created by the General Assembly in 1992 to bring a broader context to the decision-making process. The Center's mission is to illuminate the long-range implications of current policies, emerging issues, and trends influencing the Commonwealth's future. The Center has a responsibility to identify and study issues of long-term significance to the Commonwealth and to serve as a mechanism for coordinating resources and groups to focus on long-term planning.

Governing the Kentucky Long-Term Policy Research Center is a 21-member board of directors that includes four appointees from the executive branch, six from the legislative branch, and 11 at-large members representing citizen groups, universities, local governments, and the private sector. From the at-large component of the board, six members are appointed by the Governor and five by the Legislative Research Commission. In accordance with its authorizing legislation, the Center is attached to the legislative branch of Kentucky state government. The makeup of its board, however, affords it functional independence and permits it to serve both the executive and legislative branches of government equally, as well as the public.

Michael T. Childress is the executive director of the Center. Those interested in further information about the Kentucky Long-Term Policy Research Center should contact his office directly:

KENTUCKY LONG-TERM POLICY RESEARCH CENTER
1024 Capital Center Drive, Suite 310
Frankfort, KY 40601-8204

Contents

Figures

Tables

Summary

Governments at all levels are feeling squeezed between limited resources and seemingly limitless pressures to increase spending, but it was not always this way. Just 30 years ago, when the U.S. economy was robust and expanding, the national debt was much smaller, there were more workers per Social Security recipient, and programs such as Medicare and Medicaid were in their infancy, economists worried about a drag on the economy resulting from public revenues growing faster than public expenditures (Giertz, et al., 1995). In the 1960s, governments had "structural surpluses." Today, governments have "structural deficits."

A structural deficit is not a single-year shortfall, which might occur as the result of an unforeseen natural disaster, a new mandate from the federal government, or a sluggish economy. Rather, a structural deficit is a long-term crisis; it occurs when revenues are projected to consistently grow more slowly than expenditures over several years. Because many states cannot actually run a deficit, certain expenditures may be neglected, sometimes for years, in order to balance the books.

This report essentially asks, "With the changes taking place in society, the economy and the populace, how much money will Kentucky need to spend 10 years from now in order to give its citizens the same quality of services they receive today?" The answer is, "More money than we'll have."

Does Kentucky have a structural deficit? Will the current revenue structure (consisting of various taxes, fees, investments, and governmental transfers) be able to support the current level of services in coming years, or will spending cutbacks be necessary in order to maintain a balanced budget? This report suggests that Kentucky does, in fact, have a structural deficit.

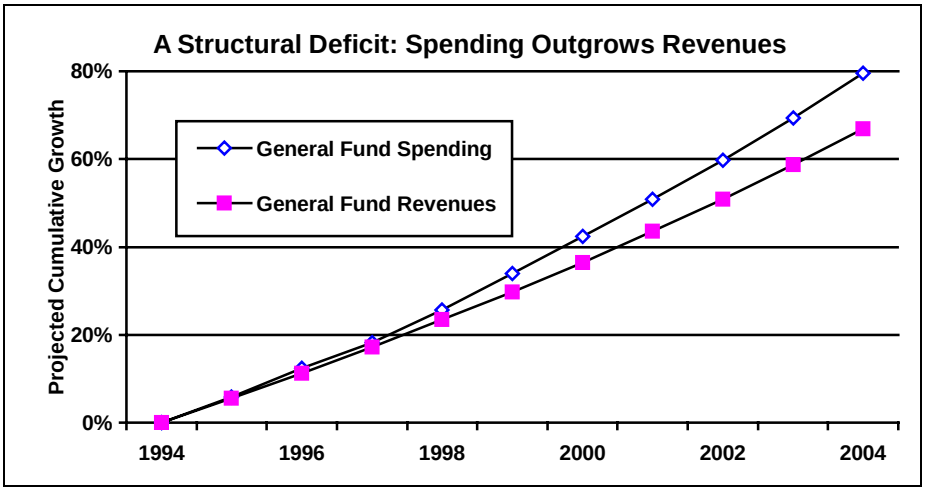
Our claim is based on projected revenues and expenditures through fiscal year (FY) 2004. The revenue projection simply assumes that, without any major changes to the tax structure, general fund revenues will grow at the same rate as personal income—a rather generous assumption given recent growth rates and tax cuts. But this report focuses on expenditures and the possible impact that a variety of trends may have on

state spending during the next decade. Of course, no one knows for sure how fast technology will improve or whether the poverty rate will increase or decrease. We cannot be certain that managed care will yield the expected savings for Kentucky's Medicaid system or that the prison population will continue to grow as rapidly as it has in the past. But we can make reasonable assumptions about how these things might change, and how they might affect expenditures.

On the other hand, we assume the quality of state services *will not* change. In other words, the state will not add new restrictions on Medicaid coverage, it will not increase or decrease police protection, it will continue to give its children as good an education as they receive today, etc. This report essentially asks, "With the changes taking place in society, the economy and the populace, how much money will Kentucky need to spend 10 years from now in order to give its citizens the same quality of services they receive today?" The answer is, "More money than we'll have."

FUTURE REVENUES AND EXPENDITURES

We project expenditures to grow approximately 6 percent a year through FY2004, compared to 5.3 percent annual growth for revenues. The difference may not seem like much, but at this rate, expenditures would grow 79 percent between FY1994 and FY2004, while revenues would only grow 67 percent. Even starting with a surplus in FY1994, we project that expenditures will exceed revenues by more than 4 percent in FY2004. This deficit will exist only in theory, because in practice spending will have to be less than revenue.

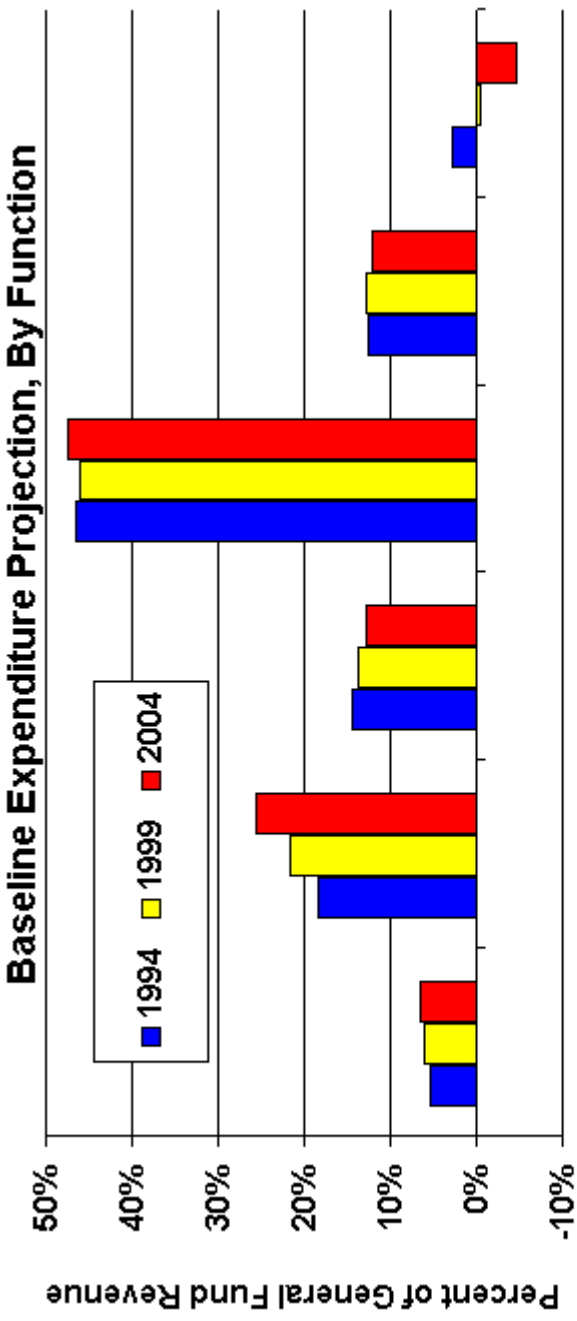


Overall, general fund spending is growing faster than general fund revenue, but not all expenditures are increasing at the same pace. If we divide state spending into functional categories—primary and secondary education, higher education, police and corrections, health and human services, highways and all other—we find that Kentucky's investment in education is growing slower than spending on prisons and health care:

- In our projections, health and human services spending experiences the sharpest increase. We project this function's share of general fund revenues to rise from 18.3 percent in FY1994 to more than 25 percent in FY2004.
- Police and corrections spending rises from 5.3 percent of general fund revenues to more than 6.5 percent.
- Primary and secondary education spending as a percentage of general fund revenues is essentially unchanged.
- Higher education's share of general fund revenues falls from 14.5 percent in FY1994 to less than 13 percent in FY2004.
- Highway spending is financed by the transportation fund, not the general fund, and so is not included in the forecast. But transportation fund revenue is nearly stagnant and real spending is less than it was 20 years ago.
- All other spending slips from 12.6 to 12.1 percent of general fund revenues.

Of course, a healthy populace and a safe society are essentials of a high standard of living. Yet we contend that the best (not to say the only) way to cultivate a high standard of living for future generations is by increasing Kentuckians' knowledge, abilities and talents—the paramount goal of the education system.

Our baseline projection of general fund spending for different functions of government is illustrated on the following page. Note the general fund “deficit” of 4.6 percent in FY2004. We are not actually forecasting that Kentucky will have a deficit because it is prohibited by law. Rather, this shows that spending is growing at an unsustainable rate, given the current tax structure and our assumptions about a variety of factors.



	Police & Corrections	Health & Human Services	Higher Education	Prim. & Sec. Education	Other	Surplus or Deficit
1994	5.3%	18.3%	14.5%	46.5%	12.6%	2.7%
1999	6.1%	21.7%	16.8%	46.1%	12.7%	-0.4%
2004	6.6%	25.6%	12.9%	47.4%	12.1%	-4.6%

ALTERNATIVE SCENARIOS

We have already noted that the revenue and expenditure projections assume that the tax and spending structures will not change in the coming years. But what if we were to make a change? What if, for example, Kentucky decided that its spending for education was too low compared to other states and should be increased? Or what if the federal government changes its Medicaid funding policy? Our budget model allows us to change a variety of factors which can create alternative budget scenarios. In this report we explore four alternatives to our baseline forecast:

- An expanded commitment to higher education;
- An expanded commitment to primary and secondary education;
- A change in federal Medicaid spending;
- A recession.

The budget projections based on these alternative scenarios do not pinpoint the exact amounts by which expenditures or revenues will change. Rather, they illustrate the magnitude of the impact these events *might* have on the budget.

The "expanded commitment to higher education" scenario includes a gradual increase in both spending per student and college enrollments to meet the regional averages by FY2004. Our analysis suggests that spending for higher education would grow nearly 90 percent between FY1994 and FY2004, compared to a 50 percent increase in the baseline projection. The total cost of the expanded commitment to higher education could be more than $1 billion over 10 years. If spending for other functions is unchanged from the baseline levels, higher education spending could exceed 16 percent of general fund revenues, and total spending for all categories would then exceed revenues by more than 8 percent.

In the "expanded commitment to primary and secondary education" scenario, we look at the cost of raising state and local expenditures per pupil to match the regional median. Even assuming local governments bear their share of the increase, we project a huge cost—$1.8 billion cumulative—and a deficit of more than 9 percent of general fund revenues in FY2004. In this scenario, spending for primary and secondary education is projected to grow 87 percent between FY1994 and FY2004, compared to a baseline increase of 70 percent.

One of the contentious items of the Federal budget debates of 1995 was Medicaid. Congress considered a variety of proposals to reduce federal spending over several years. One bill would have given Kentucky about $13.3 billion for Medicaid between FY1996 and FY2002. The Urban Institute in Washington projected that this plan would have cut Kentucky's federal Medicaid revenues by about $4.3 billion between FY1996 and FY2002; Kentucky's Cabinet for Health Services projected a reduction totaling about $3.4 billion. Our estimate is that the state would lose roughly $700 million by FY2002 and $2 billion by FY2004. The Urban Institute and the Cabinet for Health Services project gloomier scenarios than we do (because of different assumptions about baseline spending), but even using our estimates the state could have a general fund deficit of nearly 14 percent by FY2004, and health and human services spending could amount to more than one-third of all general fund revenue, if we are to maintain the quality of services in the Medicaid program.

We look at a recession scenario to demonstrate the importance of the rainy day fund. This fund supports state spending in lean years, when slow economic growth leads to slow revenue growth. While our analysis projects expenditure growth to increase slightly during a recession (we chose 2002 as the year for the recession), it also projects revenue growth to slow to only about 1 percent, compared to 5 percent growth in the baseline forecast. Instead of a baseline deficit of 3 percent in FY2002, the slow revenue growth could create a deficit of more than 5 percent.

RECOMMENDATIONS

Many trends are largely outside the province of policymaking, particularly at the state level. If Kentucky is to maintain—let alone improve—the quality of services it currently provides, it must be proactive in managing the trends affecting spending. The state must develop and adopt strategies for strengthening its financial outlook in years to come. We offer four recommendations:

- Take stronger measures to ensure that the budget reserve fund is adequately funded and adequately protected;
- Keep alive the spirit of the Governor's Commission on Quality and Efficiency by searching for new ways to cut costs and improve efficiency;

- Be diligent in finding opportunities to improve our investment in the future through education;
- Ensure that our tax structure provides adequate revenues for state programs.

Strengthen the Budget Reserve Fund

The current provisions for funding Kentucky's budget reserve fund are rather weak: the reserves cannot exceed 5 percent of actual general fund receipts, and any deposits made to the fund out of excess revenues are made after the state implements its surplus expenditure plan, if it so chooses. Protection of the reserve fund is even weaker—reserve funds may be appropriated at any time by the General Assembly. It's like saving money by putting it into your wallet instead of the bank. In the absence of a sound budget reserve fund, the budget effects of a recession could be brutal.

Keep Reform Alive

In its 1994 report, the Governor's Commission on Quality and Efficiency examined past budgets and noted that Kentucky has suffered budget shortfalls in 9 of the last 12 budget cycles and 4 of the last 7 years. In our report, we predict that budget shortfalls will continue to be a way of life, funds will not be available to make an expanded commitment to education, and a recession or a change in federal Medicaid policy would require severe spending cuts. Whether the Commission studies the past or we gaze into the future, the conclusion is the same: in the words of Jim Gray, chairman of the Commission, "We must change the way we manage our government."

Improve and Invest in Education

Perhaps nowhere is innovation and increased efficiency more urgent than in education. Compared to similar states, Kentucky spends less money per student at all levels of the education system. And while we are closing the spending gap at the primary and secondary level, the gap in higher education spending is widening. The Southern Regional Education Board reports that among 15 Southern states, Kentucky had the largest decrease in education funding per college student over the last 10 years. We estimate that Kentucky would have to spend an additional $1 billion over the next decade just to match median spending on higher education by our benchmark states.

While it is beyond the scope of this report to examine possible education reforms in much detail, we will note that various experts have criticized the higher education system in Kentucky for duplication of services, "turf fights," and lack of coordination, all of which decrease efficiency. To increase efficiency, businesses and other private associations might share in the costs and planning of higher education. And clearly, any substantial commitment of new state resources to higher education must be accompanied by closer collaboration among institutions and the different agencies responsible for postsecondary education.

Change the State Tax Structure

As with education reform, we will not offer many specific recommendations on tax policy. Others have done that for us. With a 1995 study by University of Kentucky professor William Hoyt, the extensive and detailed work of the Kentucky Commission on Tax Policy, and the analysis of others who have looked at this issue, we have numerous recommendations for changes in the state tax system. (We should note that the Commission on Tax Policy had no authority to enact any of the changes it recommended.) In the absence of tax reform, it seems clear that revenues will not keep pace with expenditures, and state services as they now exist will be compromised. It is highly unlikely that Kentucky will be able to expand its commitment to education (or, for that matter, other kinds of workforce training, economic development or environmental protection) if expenditures *and revenues* continue along their current paths.

Glossary

ACIR — Advisory Commission on Intergovernmental Relations

AFDC — Aid to Families with Dependent Children

Baseline projection — The baseline projections might also be called "business as usual" projections. In other words, they represent our best guess at how revenues and expenditures will grow over the coming years, *assuming that current state and federal policies do not change.* These are called "baseline" projections because they give us a basis for comparison with other scenarios. For example, we compare our baseline spending projection to a scenario in which federal Medicaid policy changes. By looking at the difference between the spending projection in the new scenario and the baseline spending projection, we can see what the impact of the change in federal policy might be.

BEA — United States Bureau of Economic Analysis

Budget model — Our budget model is simply a set of mathematical formulas which project expenditures and revenues over the next ten years. These formulas require us to supply some of the data—for example, the inflation rate, the number of people covered by a particular function, the percentage of the population in poverty—and the result is a projection of revenues and spending to an exact dollar amount. Just as an example, our budget model projects spending for Medicaid to be $1,014,340,000 in FY2001. Yet this exact dollar amount should only be considered a rough estimate, for the simple reason that in order to arrive at our figure of $1,014,340,000 we had to make educated guesses about the inflation rate, the poverty rate, and the number of people in different age groups in 2001. A more technical explanation of the budget model is provided in Appendix D, at the end of this report.

FY — Fiscal year. For Kentucky, the fiscal year begins July 1 and ends the following June 30. Fiscal year 1994, for example, began on July 1, 1993.

FTE Enrollment — Full-time equivalent enrollment. FTE enrollment is computed as follows: total yearly undergraduate credit hours are divided by 15 and for graduate students by 12; the resulting sum is divided by 2 if on a semester plan or by 3 if on a quarter plan (Halstead, 1994).

KERA — The Kentucky Education Reform Act

NASBO — The National Association of State Budget Officers

Real dollars — Real dollars are inflation-adjusted dollars. Similarly, "real growth" represents growth in real dollars.

Acknowledgments

We are indebted to *Ron Carson* and *Bill Hintze*, the Deputy State Budget Directors, for their patient tutoring and untiring support, as we have attempted to understand the intricacies of the state budgetary process.

For help in gathering information and designing the analysis, our thanks to *Ken Walker* and *Sue Moore* from the Council on Higher Education, *Ken Dressman* and *Commissioner Jack Lewis* from the Department of Corrections, *Neville Wise* from the Department for Medicaid Services, *Jim Street*, *Bob Cox* and *Manoj Shanker* from the Office of Financial Management and Economic Analysis, *Don Judy*, *Ginny Wilson* and *Perry Nutt* from the Legislative Research Commission, and *Diane Hancock* from the Governor's Office for Policy and Management. We offer special thanks to *Ed Ross* from the Finance and Administration Cabinet for his assistance in giving us historical budget data.

This report was reviewed by *Ryan Atkinson*, *Gary Cox* and others at the Council on Higher Education, *Jim Dertouzos*, *Andrew Kleine*, *Robert Kleine*, *Bill Lear*, *Viola Miller*, *Perry Nutt*, *Charles Schirmer*, *Jare Schneider*, *Ron Snell*, and *Ginny Wilson*.

We acknowledge *Billie Sebastian*, who helped compile the questionnaire responses and provided, along with *Michal Smith-Mello*, editorial expertise; we thank *Melissa Taylor*, who helped with the data entry; and we thank *Robert Durham*, who designed the front cover. Of course, any mistakes contained in this report are solely the responsibility of the authors.

Introduction

"But it is pretty to see what money will do."
Samuel Pepys

If you want to know what a government does, look at how it spends its money. A quick comparison of state and federal budgets will tell you that the United States of America sends people into space and the Commonwealth of Kentucky does not, nor does the state support struggling democracies in Central America or the Sub-Sahara. Kentucky does not have a space program or offer foreign aid because these matters are addressed at another level. By the same token, the federal government does not spend much of its money on primary and secondary education because these have traditionally been the responsibility of the states and municipalities. The governments in Frankfort, Kentucky and Washington, DC spend their money differently because they have different priorities.

Setting priorities for a government means deciding what a government will and will not do, and this, of course, is an inescapably political process. A budget embodies party platforms, political philosophies, mandates from other levels or branches of government, social movements, media campaigns and history, all of which policymakers must sift through in order to allocate limited resources to hundreds of programs and agencies, each with its own constituency. To further complicate matters, these decisions are not made in a vacuum. Presidents, governors, mayors and legislative bodies at all levels must be attuned to changes in the economy, in society and in the populace. Government must be responsive to the trends at work in the world around it, changing what it does and, by necessity, how it spends its money.

Government must be responsive to the trends at work in the world around it, changing what it does and, by necessity, how it spends its money.

Even Kentucky, steeped in tradition, is seeing changes all across its landscape. As birth rates decline and health care improves, our population is growing older; global competition is placing new requirements on

workers, businesses and schools; juvenile crime is on the rise and prison sentences are becoming longer; demands for health insurance are rising; job security is declining. In the coming years, these and other major trends will require Kentucky to set new priorities, and, therefore, to spend its money differently. The impact these trends may have on the budget is the subject of this report.

GOALS FOR THE STUDY

A "State of the States" report from *Financial World* lamented the myopia of states with regard to long-term revenue and expenditure planning. Many states were hurt by poor budget planning during the recession of the early 1990s, and several others will likely be in precarious positions when economic growth slows again (Barrett and Greene, 1995). *$5.8 Billion and Change* is intended to help Kentucky avoid similar problems. We are already on the right track. *Financial World* praises Kentucky's financial management, noting that "the state's financial performance and management have improved substantially . . . Financial reporting is very good, as is long-term policy planning. Revenue and expenditures estimates are done formally only for the next biennium, but that horizon is likely to grow to six years" (Barrett and Greene, p. 46). Kentucky received a grade of A- for its financial management, based on surveys, "lengthy interviews with multiple state managers and consultations with other sources inside and outside state government"
(p. 38).

To strengthen Kentucky's financial management and long-term policy planning, this report will:

- Educate people about how the state spends its money;
- Explore the possible long-term budget implications of demographic, social and economic trends;
- Find points of leverage to manage or cope with these trends;
- Recommend ways to improve or secure the state's fiscal future.

GUIDING PRINCIPLES

For our efforts to be fruitful we must abide by three principles which should demonstrate to the reader both the uses and the limitations of such a study. The first principle is that we must take the long view. Too often, government budgets are only analyzed one cycle at a time. (At the federal level, a new budget is made every year; in Kentucky, it is done every other year). Political concerns often overshadow the broader question of how money spent today might affect expenditures in 5, 10 or 20 years. A short-term perspective ignores gradual shifts in spending from one function of government to another and misses trends which could have a profound impact on the budget in the future.

The second principle is that we cannot be certain about what will happen in the future and must not invest more confidence in our long view than it merits. The budget projections used in this study are largely based on current and historical trends, and assume that in coming years tax laws and public policies will continue down their current paths. Of course, laws and policies change all the time, usually in fairly minor ways, but sometimes significantly. It is, however, virtually impossible to incorporate such changes into a budget projection without a considerable amount of guessing.

The business-as-usual projections are difficult enough. They require us to make assumptions, or use the well-informed assumptions of experts, about inflation rates, employment in high-tech industries, per pupil education spending, child poverty, population growth, income growth, and federal policies. We try to make it clear whose assumptions we are using and the facts upon which they are based, but naturally they are subject to discussion and disagreement. Our budget projections might even compel changes which would render business-as-usual 10 years from now quite different than it is today. If policymakers decide they don't like the direction in which we are headed, they may, as they did with the Kentucky Education Reform Act (KERA) and the tax increases passed in 1990, fundamentally change the way the state raises or spends its money.

The third and most important principle is that this study, as the title suggests, is about change. This principle is closely related to the other two. Change becomes more discernible when we take the long view and look at trends and budgets over several years. Change also allows us a little inaccuracy in our projections; for example, even though we can't

forecast higher education expenditures to the exact dollar, what really matters is our message that state spending on higher education is changing, and not for the better. Moreover, change is critical to understanding relationships between diverse factors. When we examine demographic, economic and social trends over the years and then look at how spending for different government functions has shifted, we begin to understand how changes in the world around us affect government spending. We also see the trade-offs between spending for one function of government, such as police and corrections, and spending for others. Change is intimidating and fraught with uncertainty, but change is inevitable and cannot be ignored. In fact, if anticipated properly, it can be used to our advantage.

Did You Know...?

About half of the states, including Kentucky, do not forecast expenditures beyond their current budget cycle. Of the states that do, only 13 forecast expenditures more than two years beyond their budget cycle.

Source: National Association of State Budget Officers (1995).

OUTLINE

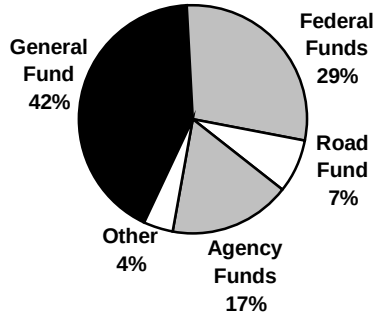
We begin with a brief primer on the state budget, discussing where our money comes from and how we decide to spend it. Next is an examination of how some important parts of the budget have changed over the past 20 years. To make the information in that section more accessible, we divide the budget into a handful of functions, such as higher education and health and human services, and look at whether each function's share of state spending has risen or fallen since the 1970s. After our education about past and current budgets, we turn our gaze to the future. Dozens of state administrators, responsible for planning and managing agency funds, report which trends they believe will have the greatest impact on their agencies' expenditures in the coming years. This subjective assessment is followed by our attempt to quantify the possible budgetary impact of different trends through 2004 and to discover where policymakers have the most leverage to control spending. We then explore some alternatives—good and bad—to our business-as-usual budget, and conclude with four recommendations to brighten Kentucky's fiscal outlook.

Budget Primer

"A billion here, a billion there, and pretty soon you're talking about real money."
Everett McKinley Dirksen

When people think of government revenues, probably the first thing that comes to mind is taxes—property taxes, sales taxes and, of course, income taxes. What Kentuckians pay in state taxes largely goes into the general fund, from which money is allocated to the different branches, cabinets and departments of state government. The general fund, however, is only one part of the entire state budget. Of the $12.1 billion Kentucky planned to spend in fiscal year (FY) 1995, the general fund provided about $5.1 billion; Kentucky spent more than $3.5 billion from the federal government, $2.1 billion from agency funds, $900 million from the road fund, and $500 million from other sources.

FIGURE 1:
Revenue Sources for FY 1995 Appropriations



Total = $12.1 Billion

Source: 1994-1996 Budget of the Commonwealth

While the general fund is financed largely by taxes, the other funds receive their revenues in a number of ways. The road fund functions quite similarly to the general fund, with more than half of its money coming from sales taxes and license and privilege taxes. Federal funds, on the other hand, come from only one source—the federal government. Other state revenues are raised from the sale of bonds, some revenues are income from state investments, and agency funds come from innumerable fees, sales, assessments and licenses.

The governor and the legislature do not have complete control over the $3,100 that Kentucky spends each year on every man, woman and child in the state. Federal funds typically arrive with very strict guidelines for how they are to be spent. If the federal funds are a match for state revenues, the federal government may even dictate how the state revenues must be spent. Bond funds are spent on projects which the state government must approve, although once those projects are approved and the bond revenues begin coming in, the money is earmarked for a particular purpose. Long after many of the legislators who approved a capital construction project have left office the state may still be repaying bond holders, leaving current legislators no control over the money. Agency funds typically are raised by the agency that spends the money. Tuition, for example, is an agency fee which universities charge students for enrollment. Again, the governor and the legislature have very little statutory control over how the money is spent. Almost all road fund revenues go to the Transportation Cabinet. In FY1995, for example, road fund resources were expected to be $929 million, of which the Transportation Cabinet was budgeted to spend $867 million, with another $22 million to be carried over to FY1996; only a very small portion of the road fund did not go to the Transportation Cabinet.[1]

The governor and the legislature do not have complete control over the $3,100 that Kentucky spends each year on every man, woman and child in the state.

Clearly, when we consider the biennial decisions which the governor and the legislature make about how to spend public revenues, we are focusing primarily on the general fund. The general fund is where the most visible revenues—the income tax, the sales tax, the inheritance tax—are deposited. Moreover, it is this fund which offers policymakers the most expenditure options and which is at the center of most budgetary conflicts.

How state government decides to spend general fund revenues is nonetheless closely related to how the rest of the money is spent. To return to the example of tuition, the more money universities raise directly from students, the less money they will need from state government to operate. Nationally, tuition rates have risen faster than

[1] However, we should add that it is a regular occurrence for surpluses to be transferred from the road fund to the general fund, and for services previously funded through the general fund to be transferred to the road fund.

public expenditures for higher education, to the extent that some people now refer to public institutions as "publicly assisted" rather than "publicly supported." Another example is the trade-off between the health care provider tax and the general fund. The health care provider tax is essentially a sales tax on medical services. Were policymakers to decide to broaden the base of the sales tax in order to include the numerous services (such as medical care) which currently are not subject to the 6 percent sales tax, the health care provider tax would almost certainly be eliminated.

In deciding which parts of the state budget to include in this analysis, we recognized that looking at the general fund by itself would not be enough. However, we also decided that certain revenue sources are beyond the scope of this study. The extreme uncertainty surrounding federal funds is an issue which we occasionally address in this study, but it does not easily lend itself to quantitative projections. An examination of all agency funds would require lengthy analysis of dozens and dozens of small revenue sources. Instead, we focus on two large and highly visible agency funds—university tuition and the health care provider tax. Together, these two funds represent 20 to 25 percent of all agency revenue funds. The road fund is also included in our study, as it is funded quite similarly to the general fund and allows general fund dollars to be spent on other functions. For every dollar the Transportation Cabinet receives from the general fund, it receives more than $200 from the road fund. The funds specifically covered in this report totaled about $5.8 billion in FY1994[2], or roughly half of all the money spent by the Commonwealth of

Did You Know...?

Every state earmarks taxes to some extent, but the percentage of tax revenue designated for specific purposes varies widely. For all states combined, the average proportion of earmarked taxes is about 24 percent. In 1993, Kentucky was lowest in the nation with only 4 percent of its tax revenue designated for a specific purpose. At the other end of the spectrum is Alabama, which earmarks 87 percent. Five states earmark more than 50 percent of their tax revenue.

Source: National Association of State Budget Officers, as reported in "Dedicated Dollars," Governing (September, 1995).

[2] All general fund and road fund expenditure figures are taken from *Supplementary Information on the Kentucky Comprehensive Annual Financial Report,* various years. University tuition and fees data come from the *Kentucky Institutions of Higher Education Information Digest, 1984-1993* and from the Council on Higher Education. Health care provider tax revenue data come from the Cabinet for Health Services. Refer to Appendix A for more information on these data.

Kentucky, and represent almost all of the money over which policymakers have direct authority.

The State Budget in Historical Context

"I have but one lamp by which my feet are guided, and that is the lamp of experience. I know no way of judging of the future but by the past."
Patrick Henry

Any study of Kentucky's budget requires that we take the long view and look at change not only in years ahead but also in years past. Many trends have been upon us for a long time, and their budgetary impact can already be seen. If we want to know how these trends might alter expenditures in the future, we should, as Patrick Henry suggests, learn how the effects of these trends have already manifested themselves through the years.

In an absolute sense, a review of Kentucky's budget over the past 20 years does not cover much time. Institutionally, however, 20 years ago is ancient history. The Revenue, Labor, Tourism and Workforce Development cabinets did not exist in 1976. Since then, the Corrections Cabinet came into and out of existence. The Development Cabinet, which bore little resemblance to today's Economic Development Cabinet, renamed itself the Commerce Cabinet, then reorganized and changed its name once again. And the Energy Cabinet appeared and subsequently became the Energy and Agriculture Cabinet before returning to its original title and ultimately being dissolved. Meanwhile, the composition of the enduring cabinets has changed considerably over the years.

...when budget expenditures are broken down by function, rather than agency, only a handful of categories account for nearly 9 out of every 10 dollars state government spends.

The cabinets are but a fraction of state government's innumerable departments, councils, commissions, centers, divisions, work groups and task forces, the names of which are often shrouded in a confusing fog of

acronyms and similar-sounding titles for offices with entirely different responsibilities. Therefore, it is somewhat remarkable that when budget expenditures are broken down by function, rather than agency, only a handful of categories account for nearly 9 out of every 10 dollars state government spends. In FY1994, spending on primary and secondary education, higher education, police and corrections, and health and human services constituted 87 percent of all general fund expenditures.[3] Together with highway expenditures, which are comprised mostly of road fund revenues, these categories form the building blocks of our historical review and our future projections. By studying the budget functionally rather than organizationally, we reduce the various elements of state spending to a manageable number of categories, we cover nearly the entire general fund and several other significant funds, and it becomes much easier for us to address the issue of what state government does.

TABLE 1: Fiscal Year 1994 Kentucky State Government Expenditures
(in millions)

Budgetary Category	General Funds	% of All General Funds*	Selected Additional Funds	Total**
Prim. & Sec. Education	$2,220	47.8%		$2,220
Higher Education	$693	14.9%	$288 (Tuition)	$981
Police & Corrections	$253	5.5%	$29 (Road Fund)	$282
Health & Human Services	$875	18.9%	$128 (Health Care Tax)	$1,003
Highways	$0.5	0.01%	$587 (Road Fund)	$587
All Other	$598	12.9%	$168 (Road Fund)	$766
Total	$4,640	100.0%	$1,200	$5,839

*Elsewhere in this report, we discuss spending for the different functions as a percentage of general fund revenue. In this table, however, we list spending as a percentage of general fund expenditures. Thus, the percentages listed in this table differ slightly from percentages listed elsewhere.
**Total does not include federal funds, bond funds or most agency funds.

Source: Data from Kentucky Finance and Administration Cabinet

Expenditures for the different functions of state government have different histories over the past 20 years. Some expenditures have risen steadily while others have seen a recent burst of growth. Revenue from sources other than the general fund, specifically the road fund, the health care provider tax and university fees and tuition, have augmented or replaced general fund expenditures in certain categories. Meanwhile, the

[3] Refer to "Expenditure Classification by Function" in Appendix A for a description of what is included in each of these categories.

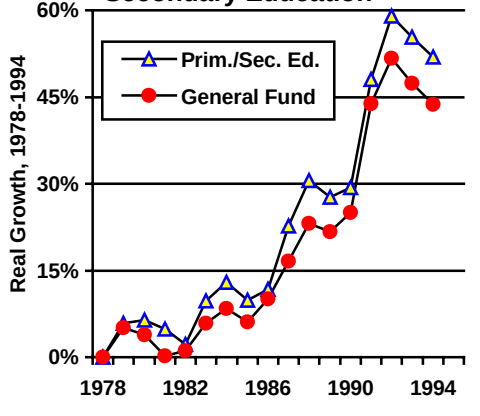
share of expenditures for budget items not included in the major functions has fallen since the mid-1970s. These trends are illustrated in the tables and graphs of this section. Except when noted, the graphs represent only general fund expenditures.

PRIMARY AND SECONDARY EDUCATION

Many people are surprised to learn how much of the state's budget is spent on just one function. In Kentucky, primary and secondary education expenditures as a percentage of general funds are somewhat above the national average, but this is partly a result of Kentucky's traditional concentration of fiscal functions at the state level. Kentucky's local government tax revenues are among the lowest in the nation on a per capita basis. In other states, local governments frequently play a much larger role in financing primary and secondary education.

Only once in the past 20 years have expenditures for primary and secondary education totaled less than 40 percent of all general fund expenditures. That was in FY1977, when only 39.8 percent of general funds went to this category. Since then, spending has stayed between 45 percent and 48 percent every year. Nominally, spending has increased from $437 million in FY1976 to $2.2 billion in FY1994. In constant 1994 dollars, spending today is over 50 percent higher than it was 20 years ago. By comparison, the total general fund budget has risen 44 percent in constant dollars.

FIGURE 2:
Expenditures for Primary and Secondary Education



Source: Data from Kentucky Finance and Administration Cabinet

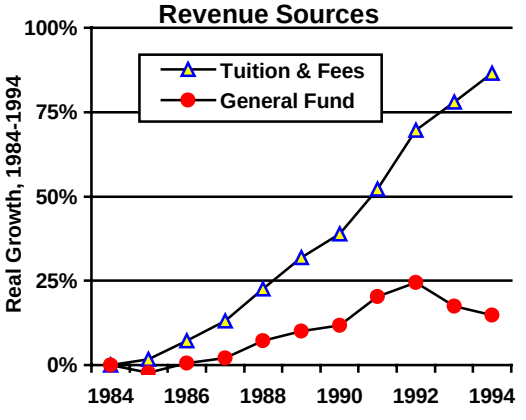
As one might expect, spending increases for primary and secondary education closely mirror changes in the whole general fund budget. In FY1978, primary and secondary education expenditures rose rapidly relative to other general fund expenditures, as spending jumped from 39.8

percent of all general funds to 45.3 percent.[4] Since then, expenditure growth has been roughly parallel, as illustrated in Figure 2. Education expenditures and total general fund expenditures both made a rather sharp climb after FY1990. The increases reflect the tax changes enacted in 1990, precipitated by KERA. Between FY1990 and FY1992, the general fund budget rose by more than $860 million, the largest two-year increase during the past two decades. Of this, half the additional expenditures ($432 million) went to primary and secondary education.

HIGHER EDUCATION

The other major component of the state's education system is higher education. Spending in this category goes to the state's eight public institutions and the community college system, as well as the Council on Higher Education and the Kentucky Higher Education Assistance Authority, which provides tuition assistance and other funding to students. In addition to spending nearly $700 million in general funds, the state's public institutions also spent about $290 million in tuition and fees paid by students in FY1994. The additional funds received via tuition and fee payments by students have partially offset the slow growth in general fund appropriations. Spending for higher education has grown more slowly than other general fund expenditures since FY1976. Particularly after FY1985, general fund spending on higher education has lagged behind the rest of the budget. Indeed, the percentage of general funds spent on higher education has fallen steadily since the mid-1980s, from 17.3 percent to less than 15 percent in FY1994, at the same time that enrollments increased significantly. As a result, tuition and fees have

FIGURE 3:
Higher Education
Revenue Sources



Source: Data from Kentucky Finance and Administration Cabinet

[4] This represents a shift in some funding from the local level to the state, not a significant net increase in overall primary and secondary education expenditures.

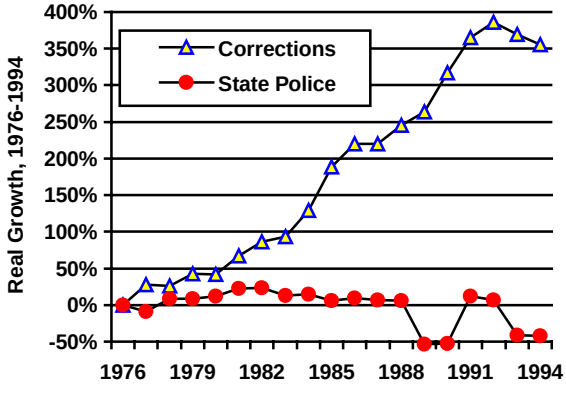
come to play an increasingly important role in funding the state's public institutions. Still, Kentucky ranks last in the South in growth in tuition revenue.

Figure 3 charts spending for higher education since FY1984. (Tuition data before 1984 is somewhat unreliable.) The illustration is striking. Increases in tuition and fees have far outpaced increases in general fund expenditures. In FY1984, for every dollar students spent on their education in the form of tuition and fees, the state contributed $4 from the general fund. Ten years later, for every dollar that students spent, the state provided just $2.50. The slow growth in state funding for higher education has necessitated belt-tightening by the public institutions and has shifted more of the cost of financing public higher education to the students.

POLICE AND CORRECTIONS

Spending on law enforcement in Kentucky rose rapidly during the 1980s. For much of the decade, police and corrections spending was the fastest-growing of all major budget categories. After FY1988, *general fund* expenditures for police and corrections dropped, but this is due to the fact that the Kentucky State Police began receiving a large share of its funding from another source, the road fund. Including revenues from the road fund and the general fund, real expenditures on police and corrections more than doubled between FY1976 and FY1994. Nonetheless, police and corrections spending remains a small share of the general fund expenditures: about 5.5 percent in FY1994.

FIGURE 4:
Expenditures for Police and Corrections



Source: Data from Kentucky Finance and Administration Cabinet

The two largest budget items included in this category are, as one might expect, the Kentucky State Police and the Department of Corrections. (Several other small departments, including the Unified Prosecutorial System and the Department of Public Advocacy, which offers defense services, are also included.) What is most remarkable about the growth in police and corrections spending is that the Department of Corrections accounts for nearly the entire increase. In FY1976, Kentucky spent more money on the state police than it did on corrections. Today, corrections spending is more than twice the level of police spending, even with the Kentucky State Police receiving about $28 million a year from the road fund. The growth in corrections spending is due not so much to rising crime rates but to court mandates and changes in sentencing.

Did You Know...?

In 1994, Kentucky had 11,000 prisoners in state facilities. Each prisoner cost the state an average of $35 per day, or more than $12,500 per year.

Source: Kentucky Justice Cabinet

HEALTH AND HUMAN SERVICES[5]

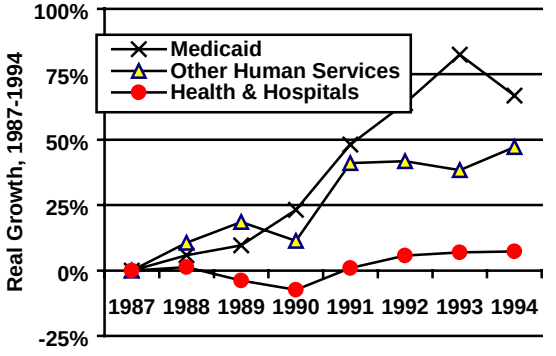
Health and human services is another fast-growing category. In FY1987, spending for health and human services (essentially what is now the Cabinet for Health Services and the Cabinet for Families and Children plus a couple of small programs elsewhere in state government) accounted for 16 percent of all general fund expenditures; by FY1994, health and human services expenditures had risen to 18.9 percent of general fund expenditures. Unquestionably, Medicaid has been the driving force in this category. However, Medicaid is not the only element of health and human services which has been rising rapidly. Spending for social services and social insurance has also outpaced total general fund expenditures in recent years. Real spending by the Department for Social Services is double what it was in FY1987, while Department for Social

[5] Originally, health services and human services were examined as two separate functions, but these categories were ultimately grouped together for two reasons. First, spending on health and hospitals consumes a rather small portion of the general fund. In 1994, health and hospitals represented only a little more than 3.5 percent of all general fund expenditures, and this percentage has fallen somewhat since the mid-1970s. A more important reason for grouping health and hospitals with human services is the fact that one of the biggest emerging issues for state budgets—Medicaid expenditures—can arguably be classified as either health spending or human services spending. Grouping the two functions together eliminates the problem of how to classify Medicaid.

Insurance expenditures have increased 70 percent over the same period. These two departments each spent roughly $125 million in FY1994. Another $115 million was spent on mental health and mental retardation services. Yet these categories are dwarfed by Medicaid, which spent more than $400 million from the general fund in FY1994.

General fund spending for Medicaid does not reflect an additional $150 million or so which comes from the health care provider tax. This tax went into effect in 1991 and was essentially intended to garner the state additional federal matching funds for Medicaid. When health care provider tax revenues are added to general funds, we see an explosion in health and human services spending during this decade. From FY1990, the last year before the health care provider tax was implemented, to FY1994, health and human services expenditures rose from $587 million to $1 billion. However, it should be noted that by increasing the state expenditures for Medicaid (via the health care provider tax), Kentucky also increased its flow of federal dollars, and some of this federal money is returned to the health care providers who are paying the new tax. Thus, the story that Kentucky's spending for health and human services rose 70 percent in four years is muddied somewhat by the reshuffling of state and federal Medicaid funds.

FIGURE 5:
Expenditures for
Health and Human Services



Source: Data from Kentucky Finance and Administration Cabinet

One of the unique characteristics of health and human services spending is its relationship to the economic cycle of recession and expansion. Entitlement programs based on need, such as Medicaid and Aid to Families with Dependent Children, typically grow faster during recessions and more slowly during expansions. Kentucky last experienced negative growth of personal income and employment during the recessions of the early 1980s. Employment and income growth slowed during the recession of 1990, but remained positive (Berger, et al., 1995). However, increases in public welfare spending were rather small in the early 1980s compared to increases in the 1990s. Thus, while the recession of 1990 may have played a role in driving up health and human services expenditures, its effects would appear to be small.

Did You Know...?

Of every dollar Kentucky receives from the federal government, 40 cents is spent on Medicaid, and another 25 cents on other programs in the Cabinet for Health Services and the Cabinet for Families and Children.

Source: 1994-1996 Budget of the Commonwealth

HIGHWAYS

Less than one-tenth of 1 percent of all general fund expenditures went to highways in FY1994. On the other hand, much of the transportation fund, which totaled $880 million in FY1994, is spent on highways. Some years a small sum (less than 5 percent of the transportation fund) has gone to the Revenue Cabinet or to the state police. The largest single source of revenue for the transportation fund is the motor fuels tax, which provides about 40 percent of fund revenues. The revenue-generating capabilities of this tax have been eroded over the years by inflation and by improved fuel efficiency. The Kentucky Association of Highway Contractors reports that the cost per mile of motor fuel taxes is 26 percent lower than it was in 1987 (Clemons, 1994).

Transportation fund revenues have declined considerably since FY1976. In real dollars, the transportation fund is actually 40 percent *smaller* today than it was 20 years ago. The minimal contribution from the general fund has done little to boost sagging transportation fund expenditures. Kentucky now makes considerable use of federal funds to pay for its highways.

ALL OTHER SPENDING

What remains after primary and secondary education, higher education, police and corrections, health and human services and highways are subtracted from state spending? Not much. In FY1994, those five functional categories consumed 87 percent of general fund expenditures, all revenues from university tuition and the health care provider tax, and most of the road fund. The amount of money left to cover the remaining government functions has grown more slowly than total spending. Over the last 20 years the percentage of general funds spent on all other functions of state government has fallen from 20 percent to its present level of 13 percent.

Some of the budget items not included in the five major functions of state government are the entire legislative and judicial branches of state government, the entire Natural Resources and Environmental Protection, Economic Development, Revenue, Tourism and Labor cabinets, most of the Public Protection and Regulation and Workforce Development cabinets, the Department of Local Government, the Attorney General's Office, the Kentucky Heritage Council, the Kentucky Historical Society, Kentucky Educational Television, and the Department of Mines and Minerals.

CONCLUSION

When we take the long view in our look at past budgets, we see that spending for the different categories is by no means static. Primary and secondary education expenditures have kept pace with the general fund, while health and human services and police and corrections have grown much more rapidly. Higher education and all other expenditures receive a smaller share of general funds than they did 20 years ago.

In Figure 6 (on page 20) we illustrate the cumulative percentage growth of the major functions of government since FY1978. The year 1978 was chosen as the base because that year the state took on a greater burden of funding primary and secondary education. Since then, primary and secondary education spending tracks general fund growth quite closely. On the other hand, higher education spending growth has lagged behind overall general fund growth, as well as the other major functions of state government.

Health and human services spending grew at about the same rate as total general fund expenditures until FY1990. But then health and human

services spending accelerated. Was this simply due to Medicaid? Not entirely. Look back at Figure 5 and see that Medicaid spending grew faster after FY1990, but so did spending for other human services. Also, note that neither Figure 5 nor Figure 6 reflects health care provider tax funds. In other words, beginning around FY1990, general fund expenditures (entirely apart from other funds) for Medicaid and other human services began growing more rapidly than the total general fund, and, therefore, began to consume a larger and larger share.

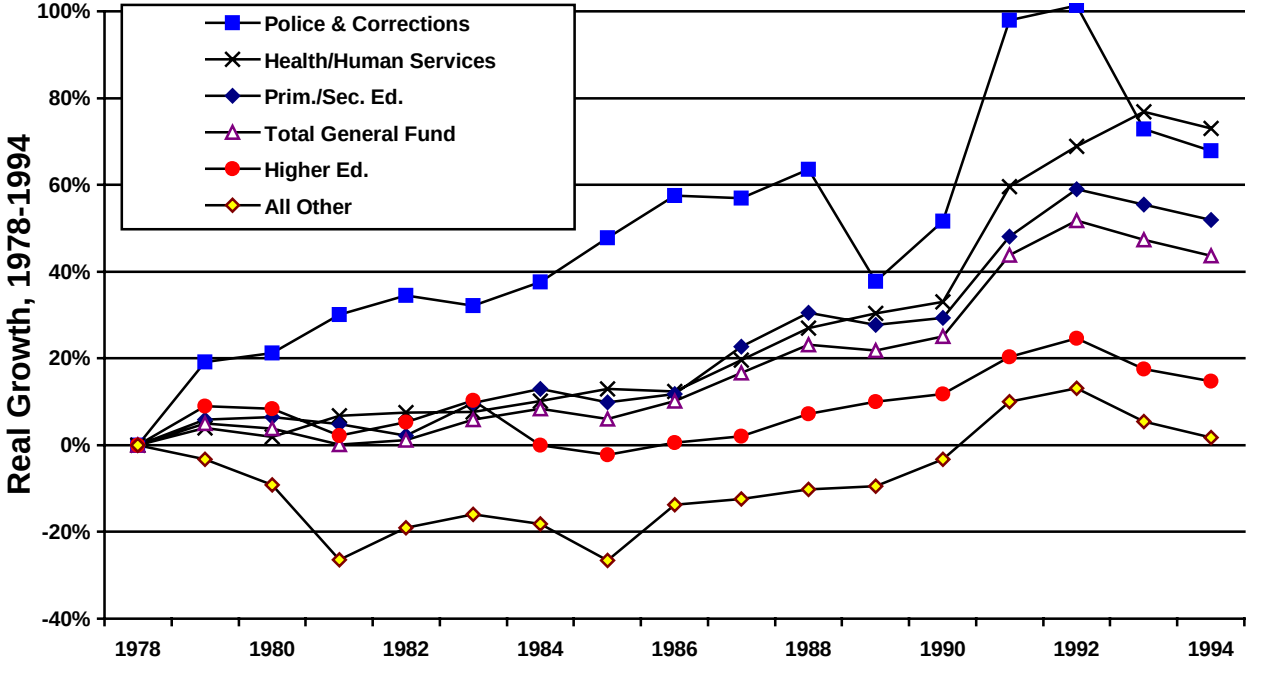
The other two categories illustrated in Figure 6—police and corrections and all other—have had significantly different fates over the last 20 years. Police and corrections spending has far outpaced total general fund growth, while expenditures for functions not included in the major categories have grown much more slowly. The large dips in police and corrections spending in FY1989-FY1990 and FY1993-FY1994 are due to the fact that the Kentucky State Police received some $28 million from the road fund in those years, and general fund expenditures were reduced by an equivalent amount. Were it not for this shifting of funds, general fund spending for police and corrections surely would have continued to grow steadily. Meanwhile, real spending for all other functions fell from the mid-1970s to the mid-1980s, and in FY1994 was barely 1 percent higher than in FY1976.

Finally, notice what happens to spending after FY1990, when Kentucky last enacted a major tax increase. Not only do education expenditures rise, but spending for the other categories rises as well. Even though education reform may have precipitated the tax increase, all functions of government received a hefty boost in funding after FY1990. In fact, police and corrections spending and health and human services spending both rose faster from FY1990 to FY1991 than did spending for primary and secondary education or higher education.

Caring for the needs of the sick, the elderly, and the indigent and maintaining law and order consume an ever-increasing share of general funds. Primary and secondary education expenditures are holding steady. Meanwhile, the state has less money to spend on higher education and other functions not captured in the four major categories, including economic development, workforce training, and environmental protection—investments in the future which could improve the state's economic and social well-being. If the shrinking "investment" which we see over the past two decades is a portent of things to come, Kentucky will be increasingly ill-prepared to face the future. This is evident in the

next section of the study, in which we report the results of our survey of dozens of people responsible for planning and managing the budgets of state agencies. Respondents indicated that numerous trends are driving state expenditures ever upwards, and many are applying pressure to the very functions of government which receive a diminishing share of state funds.

FIGURE 6:
General Fund Spending, by Function



Note: General Fund spending for highways is negligible and therefore is not listed as a separate function in the chart. It is included in "All Other."
Source: Data from Kentucky Finance and Administration Cabinet

Expert Opinions

"Bow down thine ear, and hear the words of the wise..."
Proverbs 22:17

Our review of state expenditures over the last two decades makes it abundantly clear that the state budget is changing. Long-term trends run deep, churning the budgetary waters, causing new issues to surface and washing away old ones. Yet, while many of these trends are recognized and often discussed, their long-term budgetary impact is not well understood.

This is evidenced by the widely discussed demographic trend, the "graying of society," which will be felt in Kentucky long before it registers in other states. The aging of society coupled with the disproportionate share of Kentucky's elderly population living below the poverty level suggests there will be new demands on government services like Medicaid, forcing policymakers to grapple with added fiscal pressures. Unfortunately, it is not well understood how an aging population will affect future state budgets. This is just one of many factors that *may* exert additional pressure on the state's scarce budgetary resources over the next several years.

There are many agencies that expect either a moderate or significant increase in expenditures during the coming decade in response to the trends examined in this study.

In this section, we examine and discuss a range of trends, innovations, and forces that promise to enter the decision making framework as policymakers allocate future state resources. To be certain, we do not present an exhaustive list of factors. Nevertheless, this analysis is informed by the insights and experiences of individuals within government who are responsible for the development and implementation of agency, department, or institutional budgets—including cabinet secretaries, department com-

missioners, and university presidents, to name a few.[6] Moreover, we augment their insights with an exploration of the vast literature on this topic to inform our analysis. Despite all of this, the reader should understand that the future holds considerable uncertainty. An example of this is the so-called "new federalism," which we know will affect the future roles and responsibilities of state and local governments in a fundamental and profound way, but is still being shaped by Congress and the President.[7] With these caveats in mind, we invite the reader to consider the range of factors that our analysis suggests could affect future state budgets.

TRENDS THAT COULD AFFECT STATE EXPENDITURES

To learn more about the long-term implications of various trends on future state expenditures, we divided the state budget by agency into 82 discrete units and sent questionnaires to those responsible for planning and managing the funds for these units.[8] We asked these individuals to examine an array of trends, innovations, and forces, which are listed in Table 2, and to evaluate their long-term impact on the budgets of the agencies they represent. We also asked them to suggest any other factors not listed that they feel will impact their agencies' future expenditures.

The questionnaire results suggest that there are several trends, innovations, and forces that could exert upward pressure on state expenditures in the future. These trends are illustrated in Figure 7 (on page 25) and are described below.[9]

---

[6] One might be concerned with bias in these questionnaire results. For example, a respondent might indicate that a particular trend(s) will compel their agency to expend additional future resources only to "make a case" for their agency to receive additional future resources. However, we are concerned with the *relative* impact of an array of trends on future state expenditures. Thus, it is still instructive—even if the responses are gamed—to see which trends garner the most attention.

[7] Refer to "Power to the States: Are they ready?" by Kelly, Melcher, et al. in *Business Week*, August 7, 1995.

[8] This means, of course, that we are looking only at current spending programs. As discussed in the previous chapter, historical spending patterns in the state budget reveal considerable continuity in the functions, and thereby the spending, of state government. This is not to say that there will not be any new money for new programs, but that any changes are likely to be marginal.

[9] These trends are taken from *The Context of Change: Trends, Innovations and Forces Affecting Kentucky's Future.*

TABLE 2: Trends, Innovations and Forces Affecting the Commonwealth

1. Modest Population Growth	20. Rising Income Inequality
2. Racial/Ethnic Homogeneity	21. Worker-Management Relations
3. Enduring Rurality	22. State Fiscal Structure
4. More Single-Parent Households	23. Unfunded Federal Mandates
5. Declining Birth Rate	24. Transportation
6. Fewer People per Household	25. Improving Water Quality
7. Aging of the Population	26. Cleaner Air
8. Poverty Among the Elderly	27. Solid Waste
9. Rising Generational Tension	28. Health Care Cost and Quality
10. Global Competition	29. Poverty Among Children
11. Rise of the Information Age	30. Need for Adult Education
12. Changes in the Coal Industry	31. Educational Reform
13. Forces Affecting Tobacco	32. Beyond High School
14. Strength in Manufacturing	33. Higher Education
15. Emergence of Timber	34. Crime Rate
16. Tourism and the Economy	35. Rising Juvenile Arrests
17. Importance of Small Business	36. Increasing Prison Populations
18. Tenuous Employment	37. Importance of Civic Life
19. Increasing Working Poor	

Note: These trends are taken from *The Context of Change: Trends, Innovations and Forces Affecting Kentucky's Future*, by Michal Smith-Mello and Peter Schirmer. For a more complete description of these shorthand characterizations refer to Appendix C.

Rise of the Information Age — The long-heralded Information Age has arrived and will exert a powerful influence on the way we work and live. Technology is accelerating the rate of change and creating an explosion of opportunities for highly skilled workers and innovative firms.

Need for Adult Education — By virtually every measure, Kentuckians are undereducated and ill-prepared to meet the challenges the future will bring. Prominent among the litany of often repeated deficiencies are high dropout rates, a low rate of college attendance and one of the highest percentages of adults without high school diplomas in the nation. While significant and even dramatic progress is being made, Kentucky still has far to go in its drive to close persistent education and training deficits.

Poverty Among Children — According to official government estimates, approximately one-fourth of Kentucky's children live in poverty. Research has consistently confirmed that poverty adversely affects the health and educational attainment of children reared under its mantle, and in turn, the productivity and independence of their adult lives.

Beyond High School — By the turn of the century, the majority of U.S. workers will need more than a high school diploma. Increasingly, educational need has extended beyond the basics provided by a high

school education. As the demand for highly-trained workers with a solid intellectual foundation continues to expand, the importance of honing the skills of new and current workers is critical.

Single-Parent Households — More children live in households headed by single parents, who are much more likely to be poor, as a result of the increased incidence of divorce and a growing number of births to unmarried women.

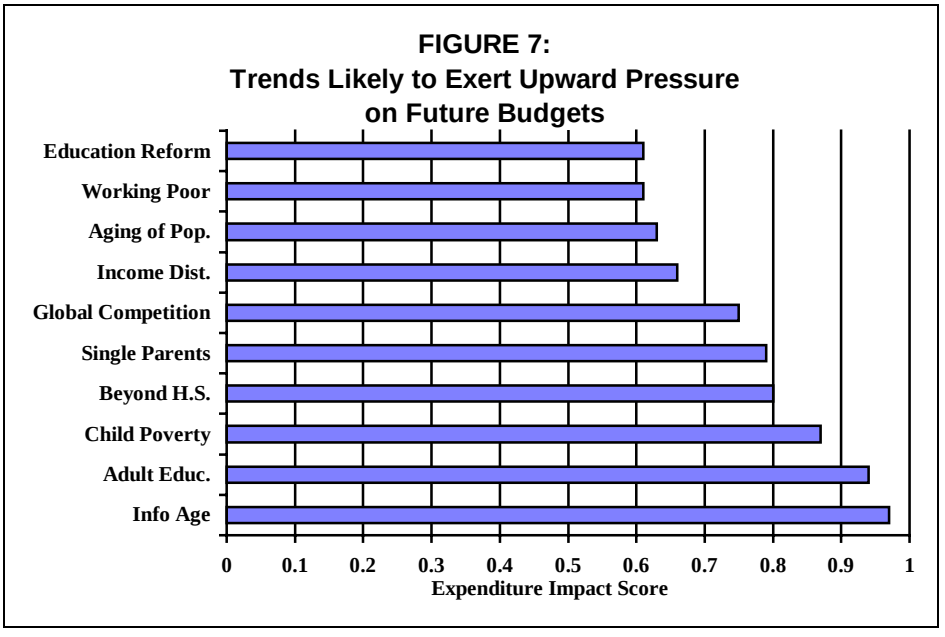
Unprecedented Global Competition — Global competition has placed extraordinary demands on business and industry and, in turn, on workers, who have scrambled to build higher quality products, in less time, at a lower cost. This seemingly limitless world marketplace is challenging Kentucky firms and their employees to meet rising product and performance goals.

Rising Income Inequality — In Kentucky, income inequality became more pronounced over the most recent decade. Increasingly, economists view deepening disadvantage as a problem with broad-based implications. Falling U.S. wages have been accompanied by the rise of income inequality and what many analysts believe is a shrinking middle class. The impoverishment and decline that inequality fosters is believed to discourage investment and, in turn, adversely affect productivity.

Aging of the Population — The aging of our population is perhaps the most striking population trend affecting Kentucky. This trend will persist and deepen over the first half of the 21st Century. It is revealed by an emerging middle-age population bulge, a decrease in the number of Kentucky children and an increase in people in their middle and older years.

Increasing Working Poor — The percentage of poor working families in Kentucky grew during the 1980s and continued to exceed that of the nation as a whole. Rising levels of contingency employment, the ascendance of low-wage industries, a reciprocal decline of high-wage industries, low labor force participation, and the types and the mix of jobs industry is bringing to the state are influencing wage levels.

Educational Reform — The Kentucky Education Reform Act has yielded measurable improvements in the performance of students and engaged thousands of parents, teachers and administrators in a new way of thinking about education. In spite of its ranking at or near the bottom of the 50 states in many aspects of educational attainment, Kentucky has ascended to national prominence in educational reform.



These trends cluster around *two distinct themes*. First, the rise of the Information Age and the emergence of unprecedented global competition are compelling policymakers to examine Kentucky's post-secondary education system as it relates to adult education and workforce development. A second area vying for attention from policymakers is the status of Kentucky's children. Poverty among children and the related issues of increasing numbers of single-parent households, the working poor and income inequality are placing enormous pressure on Kentucky's families, which is being felt by Kentucky's schools.

TRENDS AFFECTING COMPONENTS OF THE STATE BUDGET

What do the survey results suggest about how the trends will affect the separate components of the state budget? The results reveal a high degree of convergence across the various functional categories. At the same time, they also suggest that while some trends will likely affect only one or two functional areas, the impact of these trends will be fundamentally important for those areas. The results are presented in Table 3.

TABLE 3: The Expected Impact of Selected Trends, Innovations and Forces on the Functional Areas of the State Budget

TREND	P/S EDUC	HIGH EDUC	P&C	H&HS	HWYS
1 - Population Growth					X
4 - Single Parents	X				
6 - Fragmented Families			X	X	
7 - Aging of the Population				X	X
8 - Poverty Among Elderly				X	
9 - Generational Tension				X	
10 - Global Competition		X			
11 - Info Age	X	X			X
16 - Tourism					X
19 - Working Poor			X	X	
20 - Income Inequality	X			X	
24 - Alt. Trans. Modes					X
25 - Water Quality					X
26 - Air Quality					X
28 - Health Care				X	
29 - Child Poverty	X			X	
30 - Adult Education	X	X	X	X	
31 - Education Reform	X	X			
32 - Beyond H.S.	X	X			
34 - Crime Rate			X		
36 - Prison Population			X		

Hints for reading this table: This table lists the top trends, innovations, and forces identified through the questionnaire as being the most important to the specific portion of the total state budget. For example, under the column heading P/S EDUC (i.e., Primary and Secondary Education), the "X" in the cell next to "29 - Child Poverty" indicates that this factor is ranked high using the method outlined above and in Appendix F. The trends listed in **bold** print are the top 10 trends already discussed.

Primary and Secondary Education **(P/S EDUC) —** Children and families in distress characterize the most important thematic area for this category. This is reflected by the child poverty rate and the rise of single-parent households being ranked in the top five trends. According to one official in the Kentucky Department of Education, "The increasing requirement to meet the educational needs of an increasing number of individuals at or below the poverty level will continue to require additional resources."[10]

[10] These concerns have been raised in other studies and reports. See, for instance, *Representative Expenditures*, by Robert Rafuse of the Advisory Commission on Intergovernmental Relations (ACIR), December 1990, p. 9. Rafuse assumes that it costs, on average, about 25 percent more to educate a child living in poverty.

Other important trends are the need for a "world class" education system and educational reform. Perhaps few Kentuckians realize that KERA has never been fully funded. Indeed, to do so, according to one official, would "Require a substantial investment in state dollars" (above and beyond current funding levels).[11]

Another important issue highlighted by survey respondents is the cost of technology. One respondent, a school district superintendent, wrote "The technology explosion ... will occupy or require increasing percentages of education budgets." Another superintendent indicated that the initial purchasing of the equipment is only the "tip of the iceberg." "Where," she asks, perhaps rhetorically, "will the money come from to keep it going (e.g., monthly line charges, updating equipment, maintenance, etc.)?"[12]

Poverty among children and the related issues of increasing numbers of single-parent households, the working poor and income inequality are placing enormous pressure on Kentucky's families, which is being felt by Kentucky's schools.

Finally, a shift in the demographic outlook could have a profound impact on the state's primary and secondary education budget. One respondent wrote, "A moderate increase in population will have the major impact on the education budget."[13]

Higher Education **(HIGH EDUC)** — The rise of the Information Age and the emergence of unprecedented global competition are compelling policymakers to examine Kentucky's post-secondary education system as it relates to workforce development. These two trends are affecting higher education perhaps more than any other factors. One respondent wrote, "Lifelong learning, unlimited global competition and the Information Age are all part of the same trend. Higher education will need to devote more

[11] Questionnaire response received by the Kentucky Long-Term Policy Research Center. This individual states, "While the legislation has been funded, the funding is still far less than what was originally envisioned by the legislature when it was passed. Schools and school districts are making progress in integrating funding sources; however, they are still forced to make choices between programs which were not envisioned when the reform act was passed."

[12] We should note that at least one observer has suggested that "Any increased spending on technology might be at least somewhat offset by reduced demand for purchase of other physical inputs—a networked system might allow one electronic copy of a reference book to replace hundreds of hardcopy text books—so it's not necessarily true that total costs will increase as much as expected."

[13] Many similar studies have focused on the demographic variable. See *Representative Expenditures*; *Is the State Fiscal Crisis Over?*; and *Fiscal Affairs of State and Local Governments in Nevada*, (The Urban Institute and Price Waterhouse, November 1988).

of its resources to enhancing the skills of the workforce and in creating new technologies that will develop (Kentucky's) competitiveness."

Police and Corrections **(P&C)** — It is interesting to note that social trends such as increasing numbers of working poor, changing family structures resulting in poverty and the need for adult education are viewed as important to future expenditures in this area. Another important trend is the juvenile crime rate. One respondent noted, "The rate of juvenile incarceration will continue to outpace adult incarceration rates, causing the cost of this segment of prisoners to skyrocket." One thing is certain: responding to crime will require an ever-increasing share of the state budget due to expanding prison populations. Over the past decade, policymakers have responded to the public's fear and frustration with crime by passing laws with stiffer penalties, particularly for drug offenses. As a result, incarceration rates are expected to increase.

Health and Human Services **(H&HS)** — The aging of the population and the elderly poverty rate are viewed as important trends affecting this category.[14] In addition, the laudable goal of achieving a higher degree of health promotion and disease prevention are believed to be important. Also, poverty among children and the elderly are the key trends affecting this functional area.

Highways **(HWYS)** — An increase in Kentucky's population could exert a strong budgetary impact on this functional category since increasing demands will be placed on the state's infrastructure. Also, the cost of complying with environmental regulations is seen as influencing future budgets.

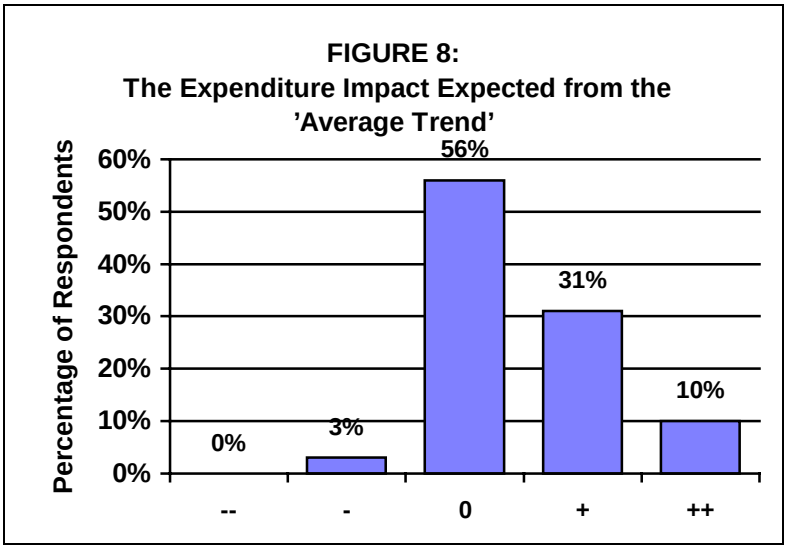
QUESTIONNAIRE RESULTS

Respondents were asked to evaluate each trend in terms of its expected impact on their agency's budget over the next 10 years by ranking the trend on a five-point scale. For example, if they believe a trend will require a large increase in their agency's expenditures during the next decade, they were asked to indicate this by circling "++" for the trend. Likewise, they were asked to circle "--" if the trend is expected to lead to a significant reduction in their department's expenditures in the coming decade. A single "+" reflects a moderate increase in expenditures and a single "-" represents a moderate decrease. If the trend is not expected to

[14] Also refer to *Is the State Fiscal Crisis Over?* and *Representative Expenditures*.

affect an agency or have only a negligible effect, respondents were instructed to circle "0".

What did the respondents think about the demographic trend that many believe will have a huge impact on the future of the state? When asked to assess the impact of *the aging of the population* on their future expenditures, none of the 55 respondents expressed the belief that this demographic transformation would likely result in a significant decrease in their agency's expenditures and a meager 5 percent indicated that a moderate decrease would be the likely result. Most of the respondents indicated that the aging of the population will result in either a moderate (45 percent) or significant (15 percent) increase in their agency's expenditures,[15] although 35 percent responded that this trend would have no impact on their future budgets.



The average results for all 37 trends are illustrated in Figure 8. More than half (56 percent) of the respondents believe the "average trend" will have no impact on future expenditures.[16] Only a few of the respondents

[15] This finding is consistent with other studies. Steven Gold has written that, from a national perspective, "very old persons, over the age of 74, are by far the fastest growing segment of the population. This could have a major effect on Medicaid outlays if states allow their present spending on nursing homes and home care to grow in proportion to the number of people requiring these services." See Steven D. Gold, *Is the State Fiscal Crisis Over?*, Center for the Study of the States, State University of New York, January 1995, p. 14.

[16] Obviously there is no "average trend." Yet, averaging the results allows us to assess the overall effect resulting from an array of important factors.

think that the average trend will exert any downward pressure on their agency's budget, but more than 40 percent anticipate that either a moderate or significant increase will result. This suggests many agencies expect either a moderate or significant increase in expenditures during the coming decade in response to the trends examined in this study.

Table 4 shows the results for each trend based on the responses from 55 agency, department, cabinet or branch heads.[17] Nearly 95 percent of the total budget is represented in these results. What are some of the trends, innovations, and forces that *could* compel state policymakers to increase budgetary expenditures in the future? The six trends that garnered the highest percentage of "positive" responses (i.e., either a moderate or significant increase in expenditures expected over the next 10 years as a result of the trend) are:

- (Trend 11) Rise of the Information Age—76%;
- (30) Need for Adult Education—64%;
- (7) State Fiscal Structure—60%;
- (22) Aging of the Population—60%;
- (32) Need for Education Beyond High School—58%;
- (29) Poverty Among Children—53%; and
- (10) Unlimited Global Competition—52%.

Are there any trends, innovations, or forces that might lead to a decrease in expenditures? Perhaps not surprisingly, according to the respondents, few trends are expected to lead to decreases in agencies' expenditures. The trend that received the highest percentage of "negative" responses (i.e., either a moderate or significant decrease in expenditures expected over the next 10 years) was Kentucky's declining birth rate. Kentucky registered the second-lowest birth rate in the nation during the 1980s, signaling the possibility of continued slow population growth.[18]

[17] Since this is an unweighted compilation, this number does not include the 39 members of the Commissioner's Advisory Board. It does include, however, input from the Commissioner and Deputy Commissioners of Education.

[18] It should be noted that the state's population is growing at a faster rate than initially forecast at the beginning of the decade.

TABLE 4: Questionnaire Results

Trend	Significant Decrease	Moderate Decrease	No Impact	Moderate Increase	Significant Increase
1. Modest Population Growth	0%	4%	55%	36%	5%
2. Racial/Ethnic Homogeneity	0%	0%	65%	31%	4%
3. Enduring Rurality	0%	4%	56%	36%	4%
4. More Single-Parent Households	0%	4%	49%	33%	15%
5. Declining Birth Rate	0%	16%	64%	15%	5%
6. Fewer People per Household	0%	4%	56%	35%	5%
7. Aging of the Population	0%	5%	35%	45%	15%
8. Poverty Among the Elderly	0%	5%	60%	25%	9%
9. Rising Generational Tension	0%	2%	67%	24%	7%
10. Global Competition	0%	0%	48%	33%	19%
11. Rise of the Information Age	0%	2%	22%	42%	35%
12. Changes in the Coal Industry	2%	5%	53%	33%	7%
13. Forces Affecting Tobacco	2%	2%	67%	27%	2%
14. Strength in Manufacturing	0%	2%	51%	36%	11%
15. Emergence of Timber	0%	0%	71%	25%	4%
16. Tourism and the Economy	0%	0%	60%	24%	16%
17. Importance of Small Business	0%	0%	53%	44%	4%
18. Tenuous Employment	0%	4%	58%	31%	7%
19. Increasing Working Poor	0%	2%	55%	35%	9%
20. Rising Income Inequality	0%	4%	49%	42%	5%
21. Worker-Management Relations	0%	2%	64%	27%	7%
22. State Fiscal Structure	0%	0%	40%	42%	18%
23. Unfunded Federal Mandates	0%	0%	62%	29%	9%
24. Transportation	0%	4%	67%	22%	7%
25. Improving Water Quality	0%	0%	64%	33%	4%
26. Cleaner Air	0%	2%	73%	20%	5%
27. Solid Waste	0%	0%	67%	33%	0%
28. Health Care Cost and Quality	0%	9%	56%	27%	7%
29. Poverty Among Children	0%	4%	44%	29%	24%
30. Need for Adult Education	0%	2%	35%	38%	25%
31. Educational Reform	0%	7%	53%	25%	15%
32. Beyond High School	0%	0%	42%	40%	18%
33. Higher Education	0%	2%	62%	25%	11%
34. Crime Rate	0%	0%	67%	22%	11%
35. Rising Juvenile Arrests	0%	0%	65%	20%	15%
36. Increasing Prison Populations	2%	0%	65%	24%	9%
37. Importance of Civic Life	0%	2%	55%	36%	8%
Mean	**0%**	**3%**	**56%**	**31%**	**10%**

Hints for reading this table: There were 53 to 55 respondents for each question, accounting for 92.9 percent to 94.9 percent of the budget. The first row shows that none believe this trend will result in a significant reduction in their budgets and only 4 percent believe a moderate decrease will result. The vast majority feel that it will have no impact (55 percent), but 41 percent think that some increase, either moderate (36 percent) or significant (5 percent), will result from this trend.

CONCLUSION

This survey is an important first step in thinking about the future direction of state expenditures. It also acts as a counterweight to the next chapters of this report, in which we offer a very "quantitative" forecast—the budget model we have developed can crank out growth rates and budget shares, percentages and spending levels to the dollar. This survey offers an entirely different kind of forecast, one which looks at the broad social, economic, and demographic landscapes from a variety of perspectives through years of experience. Those interested in learning more about the survey and our method of analysis can turn to Appendix F. Otherwise, turn to the next chapter, in which we offer a different way of exploring the possible budgetary impact of trends, innovations, and forces affecting the Commonwealth.

Future Revenues and Expenditures

"Our destiny exercises its influence over us even when, as yet, we have not learned its nature: it is our future that lays down the law of our today."
Friedrich Wilhelm Nietzsche

These days your local bookstore probably has in stock dozens of different books explaining how to plan for retirement. The books typically have worksheets on which you write your age, your income, your number of dependents, your current savings and several other pieces of information which are used to calculate the amount of money you need to save each month to reach a million dollars by the time you're seventy. It's a lot of work, and in the event you should die prematurely, it's a big waste of time. That's why you also buy books about estate planning. Deaths, births and innumerable other events make retirement and estate planning somewhat dubious endeavors, but most people would agree that it is unwise to simply ignore your future financial needs or those of your loved ones. We adopt the same philosophy for this study. The budget model[19] we are about to present by no means captures all of the uncertainties that the future holds, and we realize that multi-year revenue and expenditure projections are nothing more than educated guesses. But this should not prevent us from planning for the future financial needs of the Commonwealth.

[19] See the glossary on page xxi and Appendix D on page 103 for further discussion of the budget model.

In fact, a 1995 report from the National Association of State Budget Officers (NASBO) lists multi-year forecasting and analysis as one of the strategies for achieving budget stability. Recognizing both the uncertainty and the usefulness of forecasting, the authors write, "In general, the numbers associated with multi-year forecasting are less helpful than the fact that it provides a framework for political discipline. In short, the true costs of new spending and tax reductions are more easily understood when the costs are shown for more than the current budget period." In this report we are not attempting to pinpoint the exact amount of money that Kentucky will spend on any particular function eight years from now. Rather, these projections are meant to tell a story about relationships—between expenditures and revenues, between expenditures for different functions of government, between expenditures and social, economic and demographic trends. Like a retirement planning worksheet, these revenue and expenditure projections can help Kentuckians assess their current situation and develop strategies to reach the goals they have set for the state.

Did You Know...?

Kentucky had the seventh-lowest state and local government spending per capita in the nation for fiscal year 1992.

Source: Government Finances: 1991-92 (Preliminary Report), *Reported in "Ranking the 50 States,"* Governing *(February 1995).*

EXPENDITURE AND REVENUE FORECAST

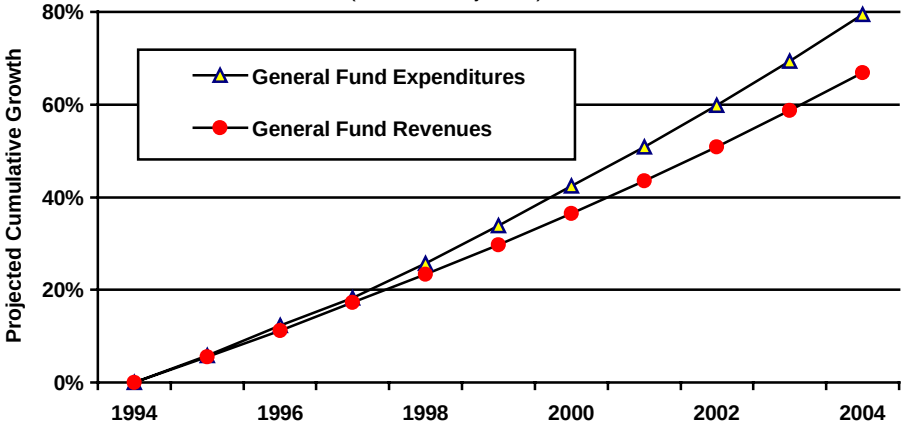
The list of demographic, social and economic trends affecting expenditures is long; the relationship between tax structure, economic performance and revenue elasticity is complicated; the horizon for the forecast (the year 2004) is more distant than most states choose for their budget projections. Yet from all of this emerge two clear and simple messages:

- Expenditures are projected to rise faster than revenues;
- We are spending a shrinking share of general fund revenues on our "investment" in education.

For our business-as-usual forecast, we project general fund spending to grow approximately 6 percent each year through FY2004, compared to 5.3 percent annual growth for general fund revenues. The difference may not seem like much, but at this rate, expenditures would grow 79 percent between FY1994 and FY2004, while revenues would only grow 67

percent. Even starting with a surplus in FY1994, we project that expenditures would exceed revenues by more than 4 percent in FY2004. Thus we find ourselves in an untenable situation: were we able to run a deficit, spending would steadily outpace revenue. Because Kentucky cannot run a deficit, we must increase revenue, decrease spending, or both. In years of unexpectedly slow economic growth, or unexpectedly high expenditures, perhaps due to a natural disaster or a court mandate, spending cuts may be especially painful.

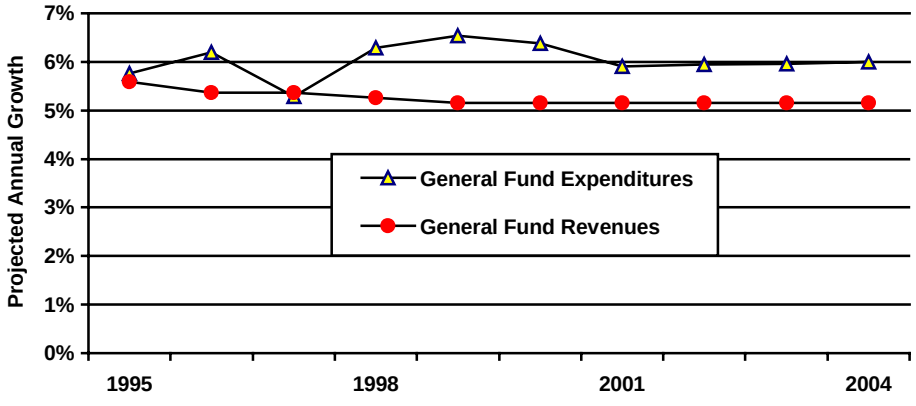
FIGURE 9:
Illustration of a Structural Deficit:
Spending Outgrows Revenues
(Baseline Projection)



Source: Kentucky Long-Term Policy Research Center

Figures 9 and 10 illustrate the projected growth rates for expenditures and revenues through FY2004. It is important to keep in mind when examining these and subsequent projections that the budget model, by its very nature, suggests a level of precision which does not truly exist. The exact numbers, therefore, are not nearly as important as the broad theme illustrated in the graphs: expenditures are rising faster than revenues.

FIGURE 10:
Annual Growth in Expenditures and Revenues
(Baseline Projection)



Source: Kentucky Long-Term Policy Research Center

The second major theme of our baseline forecast—a declining share of revenue is being invested in the future—is evident in the rising share of resources allocated to health and human services and police and corrections:

- Health and human services spending experiences the sharpest increase in spending. We project this function's share of general fund revenues to rise from 18.3 percent in FY1994 to more than 25 percent in FY2004.
- Police and corrections spending rises from 5.3 percent of general fund revenues to more than 6.5 percent.
- Primary and secondary education spending as a percentage of general fund revenues is essentially unchanged.
- Higher education's share of general fund revenues falls from 14.5 percent in FY1994 to less than 13 percent in FY2004.
- All other spending slips from 12.6 to 12.1 percent of general fund revenues.

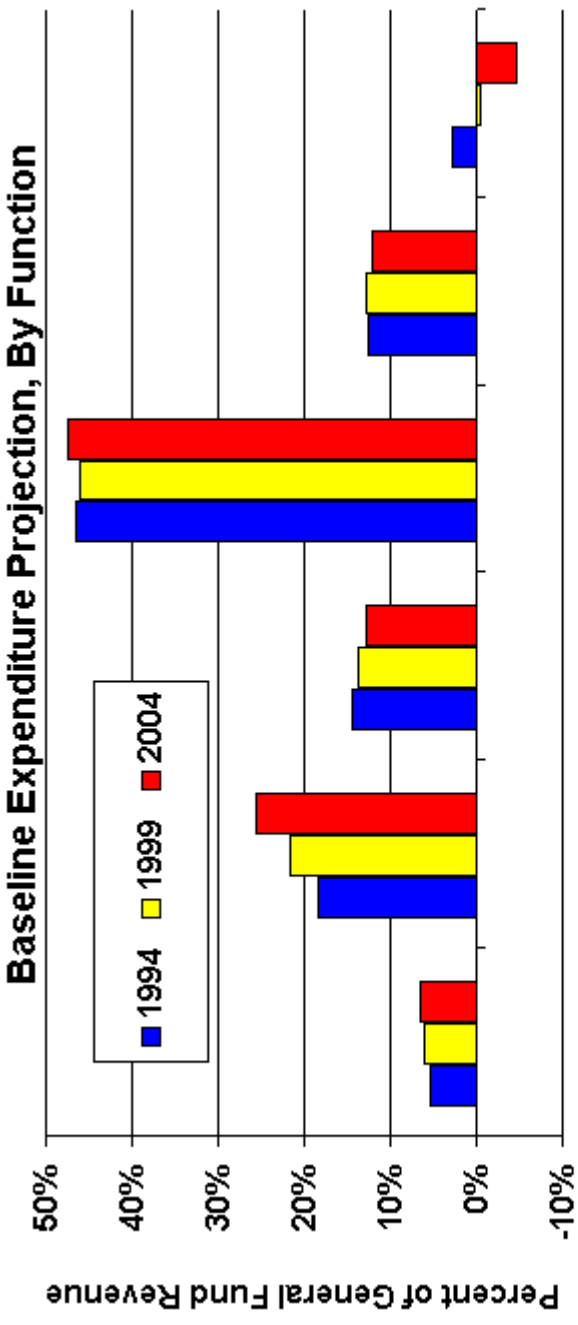
Of course, a healthy populace and a safe society are essentials of a high standard of living. Yet we contend that the best (not to say the only) way to cultivate a high standard of living for future generations is by

increasing Kentuckians' knowledge, abilities and talents—the paramount goal of the education system.[20]

We illustrate our baseline forecast of spending for different functions in Figure 11 on page 38. Note that we report spending for the different functions of government as a percentage of general fund *revenues.* This allows us to show what might happen with spending if it were permitted to grow unimpeded by constitutional or statutory restrictions on having a deficit. Figure 11 shows that with each of the major functions of government growing at their current rate, and revenue growing at its current rate, spending would exceed revenue by more than 4 percent in FY2004. Of course, this cannot actually happen. Instead, spending growth will have to slow down, or revenue growth speed up.

We repeat: these numbers are not meant to be precise estimates but are, instead, indicators of the direction that current trends are taking us. The revenue and expenditure projections certainly are not the only possibilities for the future. If Kentucky's economy is stronger than expected, or if general fund revenues grow faster than personal income, the budget picture becomes brighter. Conversely, if poverty rises or inflation rates are higher than expected, things could very well be worse than we project. These issues and many more are examined in the appendix immediately following this chapter. In the appendix, we detail our spending projections for each of the major functions of government, as well as the sub-categories which comprise certain functions. We also explain our assumptions about each variable and offer some possible alternatives to our baseline forecast for the separate functions. The analysis in this appendix is not imperative to understanding the rest of this report, but it does provide the basis for our discussion of alternative budget scenarios in the next chapter and for some of our recommendations in the final chapter.

[20] None other than Adam Smith observed that a person's "acquired and useful abilities...as they make a part of his fortune, so do they likewise of that of the society to which he belongs. The improved dexterity of a workman may be considered in the same light as a machine...and which, though it costs a certain expence, repays that expence with a profit" (1776). Two hundred years later, a study by the Brookings Institution found that from 1969 to 1976, the contribution to growth of GNP per person was higher for education than for physical capital (Denison, cited in Reynolds, Masters & Moser, 1987).



	Police & Corrections	Health & Human Services	Higher Education	Prim. & Sec. Education	Other	Surplus or Deficit
1994	5.3%	18.3%	14.5%	46.5%	12.6%	2.7%
1999	6.1%	21.7%	16.8%	46.1%	12.7%	-0.4%
2004	6.6%	25.6%	12.9%	47.4%	12.1%	-4.6%

Chapter Appendix:
Revenue Scenarios and
Expenditure Forecasts for Separate Functions

In this appendix, we offer detailed spending projections for each of the major functions of government, as well as the sub-categories which comprise certain functions. We examine the factors affecting the number of people covered by each function and the factors affecting the cost of each function. By changing various assumptions, we can see how a particular factor—poverty, for example—affects a function such as health and human services. This, in turn, provides the basis for our discussion in the next chapter of four alternative budget scenarios and for some of our recommendations in the final chapter.

REVENUE SCENARIOS[21]

Much like a large jigsaw puzzle, revenue forecasts are the product of a number of factors or pieces including, but not limited to, inflation, population, per capita income, the tax structure, and emerging demographic, economic, and political trends. By taking a look at how these components are expected to act in relation to one another over the next decade in determining both the performance of the state economy, as measured in this instance by growth in aggregate income, and the average rate at which the state will tax that income, we can make an educated guess at what to expect of general fund revenues. Unfortunately, due to the recent unanticipated deviations from long-term trends experienced by at least three of these fundamental cornerstones, the structural integrity of our puzzle is somewhat tenuous—creating an unstable environment in which our puzzle could assume many forms.

Significant Factors Affecting Revenues — Population for instance, provides one such questionable cornerstone. After rising an almost negligible 0.7 percent from 1980 to 1990, our populace experienced an unanticipated burst of an estimated 3.8 percent growth over the first five years of this decade (U.S. Bureau of the Census, cited by Kentucky Economic Development Cabinet, 1995). Despite the fact that we exceeded even high growth predictions over this period, state

[21] Revenue scenarios reflect only general fund revenue projections.

demographers are skeptical about the cause of growth and express minimal confidence in its continuation—creating great uncertainty about our tax base, even in the near future (Smith-Mello and Schirmer, 1994).

Similarly, though most Kentuckians have come to expect state government to claim more of their income each year,[22] the first six years of this decade have not entirely supported such expectations. From FY1984 to FY1990, general fund revenue gradually grew from just under 6.1 percent of state personal income to just over 6.5 percent. In FY1991, as a result of such revenue-driving vehicles as the increase in sales tax from 5 to 6 percent, the elimination of federal income tax deductibility, and the increase in corporate income tax rates, general fund revenues soared to over 7.5 percent of personal income—an increase that translated into over three quarters of a billion dollars in new revenue. Since FY1991, however, the personal income touchstone has been extremely erratic—falling to 7.06 percent in FY1993 as spending patterns adjusted, and recovering to an estimated 7.4 percent by fiscal year FY1995.[23] Adding to this incongruous pattern, the Office of Financial Management and Economic Analysis expects general fund revenue to ease back to 7.0 percent of personal income in fiscal year FY1996 at least partially in response to the tax breaks for retired persons enacted in FY1995.

The third force that may jeopardize the integrity of the baseline forecast is the trend in Kentucky, like the rest of the United States, towards a service-based economy. Between 1977 and 1987, receipts in Kentucky for service industries increased by 151 percent, compared to a 75 percent increase for taxed industries (U.S. Bureau of the Census, as cited by Hoyt, 1995). As a result, if Kentucky's tax laws remain the same, the estimated $500 million in foregone tax revenues[24] will certainly continue to grow as services comprise an even greater share of the state

[22] The Office of Financial Management and Economic Analysis reported that between fiscal year 1974 and fiscal year 1994 the income elasticity of revenue averaged 1.15, meaning that a 1 percent change in aggregate personal income translated into a 1.15 percent increase in state general fund revenues.

[23] Historical figures for general fund revenues are from *The Executive Budget of the Commonwealth of Kentucky*. Historical figures for personal income are from the Regional Economic Information System, a product of the U.S. Department of Commerce Bureau of Economic Analysis. The share of personal income equivalent to general fund revenues for fiscal year 1995 is an estimate of the Office of Financial Management and Economic Analysis.

[24] Estimated by the Office of Financial Management and Economic Analysis.

economy—exerting downward pressure on the general fund's relationship to personal income.

In order to accommodate this demonstrated uncertainty surrounding integral pieces of the revenue puzzle, our revenue analysis presents two alternative, but very feasible, projections, in addition to our baseline forecast. Together, the three projections provide a range for possible revenue growth in the future. Figure 12 illustrates this range in relation to the baseline expenditure forecast. It should be noted that all three revenue projections demonstrated in the figure assume only moderate population growth from 2000-2004 in order to maintain consistency with the assumptions of the baseline expenditure forecast.

Forecast — The baseline revenue forecast assumes real growth in total state personal income of 1.9 percent annually.[25] It also assumes that the current tax laws will remain in place, and that revenues will grow at the same rate as personal income.[26] Therefore, general fund revenues will remain a constant 7.055 percent of personal income. As a product of these assumptions, our baseline forecast projects general fund revenue to experience cumulative growth approximately 67 percent above its FY1994 level and 12 percentage points *below* our baseline forecast for cumulative growth in expenditures.

What if . . . ? — We project that the general fund budget is on an untenable path: unfettered by legal limits, expenditures would grow faster than revenues over the next decade. Of course, the outlook could be brighter or darker, depending on a number of factors. To illustrate this, we compare our baseline revenue projection to two alternatives: a high-growth scenario and a low-growth scenario.

In the high-growth scenario, we use a real growth rate of 2.2 percent per year for personal income (versus 1.9 percent in the baseline forecast), and we use a rate of 1.7 percent in the low-growth scenario. The high-growth figure is based on the Bureau of Economic Analysis (BEA) projection of personal income growth for the nation as a whole.

Furthermore, the high-growth and low-growth scenarios incorporate a concept known as "elasticity." Elasticity simply reflects the relationship between the growth rates of two different numbers. If two numbers—for example, state personal income and general fund revenues—grow at the

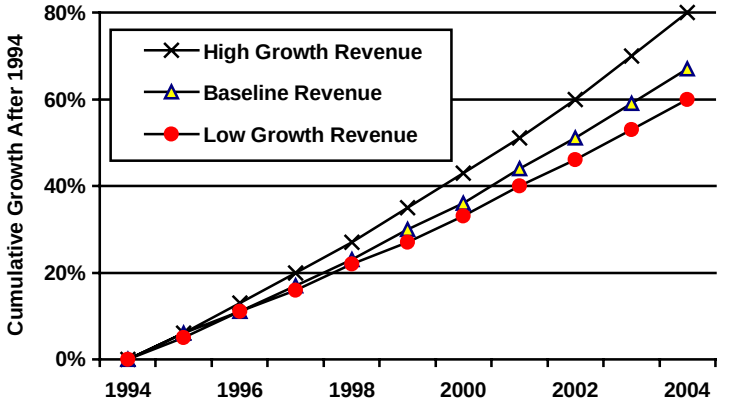
[25] The average annual growth in state personal income projected by the U.S. Department of Commerce Bureau of Economic Analysis for the period 1993-2005 was adjusted slightly to maintain consistency with the population growth assumptions of the expenditure forecasts.

[26] An elasticity of 1.00 was recommended by the Office of Financial Management and Economic Analysis to reflect a revenue-neutral stance for the baseline projection.

same rate, then the elasticity of one number with respect to the other is 1.0. If revenue grows more slowly than personal income, the elasticity of revenue (with respect to personal income) is less than 1.0. If revenue grows faster than personal income, the elasticity of revenue is greater than 1.0. In our high-growth scenario, we look at the effect of revenue having an elasticity greater than 1.0; in our low-growth scenario, we look at the effect of revenue having an elasticity less than 1.0.

With the income elasticity set at 1.1[27] (meaning that for every 1 percent change in aggregate personal income, general fund revenue will increase by 1.1 percent) and personal income growth set at 2.2 percent annually, the "high growth" scenario projects general fund revenue to grow 80 percent from FY1994 to FY2004. This highly optimistic scenario is enough—barely enough—to support our business-as-usual expenditure scenario. Conversely, with an elasticity of 0.95 and personal income growth of only 1.7 percent annually, the "low growth" forecast projects general fund revenue to grow a mere 60 percent above its FY1994 mark—not nearly sufficient to accommodate the projected 79 percent increase in baseline expenditures.

FIGURE 12:
Alternative Revenue Scenarios



Source: Kentucky Long-Term Policy Research Center

[27] Neither this figure nor the 0.95 figure used in the low-growth scenario is based on empirical estimates; they simply illustrate our point that a range of alternatives is possible. One reviewer suggested that our range of possible elasticities actually might be much wider than what we offer.

The purpose of the high-growth and low-growth scenarios is to demonstrate that, like our expenditure projections, revenue projections are uncertain. Personal income may grow more slowly or more quickly than we anticipate, general fund revenue may grow more slowly or more quickly than personal income, and, certainly, numerous other factors may intervene and alter the overall revenue picture.

TABLE 5: Projected Revenue Growth Under Different Economic Growth and Elasticity Assumptions
(Total cumulative growth between FY1994 and FY2004)

	Real Annual Growth in Personal Income		
Revenue Elasticity	Low (1.7%)	Medium (1.9%)	High (2.2%)
Low (0.95)	60.2%	63.2%	67.9%
Medium (1.0)	63.6%	66.9%	71.9%
High (1.1)	70.8%	74.5%	80.1%

Source: Kentucky Long-Term Policy Research Center

EXPENDITURE FORECASTS FOR SEPARATE FUNCTIONS

Typically, when a government forecasts expenditures, it assumes that the quality of services it provides will remain the same in coming years. Forecasters attempt to measure the rather nebulous concept of quality in terms of dollars and cents by using relative costs: quality is kept constant by keeping costs constant *relative to some standard*.[28] In many cases, the standard is simply the inflation rate. For example, Kentucky's average cost per capita for health and hospitals (a sub-category of health and human services) was about $45 in FY1994. If the medical inflation rate for 1995 is 5 percent and we wish to keep the quality of health and hospitals the same, we assume that the average cost per capita would have to rise 5 percent, to $47.25. This is based on the same principle as a cost-of-living pay increase, in which an employee gets a raise simply to maintain his or her real wage.

For education costs, however, we use a different standard—the use of technology in the economy. To have a decent standard of living today, people must be able to work in teams, solve problems creatively and perhaps most importantly, understand and use technology. Schools are typically where people get their first exposure to computers and other technology. Thus, the standard by which we measure education costs is the labor demand in high-tech industries. (Additional explanation is

[28] It is certainly true that the amount of money the state spends on a function, such as primary and secondary education, is by no means the sole metric of the quality or the level of service. However, in many cases it is difficult, if not impossible, to measure quality any other way.

provided in the discussions of primary and secondary education and higher education.)

In reading the following sections, which examine the spending projections for each major function of state government, it is imperative that the reader understand our distinction between costs and expenditures. Cost is the amount of money required to serve one person. Cost is multiplied by the number of people served and the product is the total expenditure for a function of government. (In FY1994, the cost of health and hospitals averaged $45 per person. If the relative cost of health and hospitals rises to $47.25 per person in FY1995 and the state has 3.9 million people, the total expenditure is projected to be about $184 million.) This simple formula allows us to address two important questions for each function of government:

- How many people are covered by this function?
- What are some of the factors which relative costs must keep up with in order to maintain quality?

To answer the question of how many people government will cover, we use the population growth rates (moderate and high projections) generated by the Kentucky State Data Center. Because Kentucky's population has grown faster than expected in the first half of this decade, we assume the state will continue to see high population growth rates through 2000. After 2000, we assume population growth will slow to a more moderate rate. An alternative scenario which we explore is the possibility that high population growth will continue after 2000. To answer the question of which factors costs must keep up with to maintain quality, we surveyed state officials, talked to a variety of experts and reviewed literature and news coverage of various issues.

One final note: we present our expenditure forecasts as percentage increases after FY1994, which is the last year for which we have official accounts of actual state expenditures. If actual expenditures for a function were $200 million in FY1994 and we project expenditures to be $400 million in FY2004, this is a 100 percent increase ($400-$200/$200=1.00=100%). We do this to reinforce the message that our forecasts are not meant to be precise estimates of every dollar the state will spend. By reporting percentage increases we are still able to tell a compelling story about how trends could affect the budget, without having to use exact dollar amounts.

Primary and Secondary Education

If the amount of money a state decides to spend on a function is an indication of that function's importance, then educating our children is far and away the most important thing Kentucky state government does. Close to half of all general fund dollars are spent on primary and secondary education; the next-largest share of the general fund goes to health and human services, which currently receives less than 20 percent. Since FY1978, primary and secondary education spending has hovered between 45 percent and 48 percent of all general fund expenditures, and our projections suggest that spending will stay around 47 percent through FY2004.

How Many People? — The population served by primary and secondary education is children between the ages of about 5 and 17. Even with high population growth overall, the projected number of school-age children is virtually unchanged through 2000. From 2001 to 2004 the number of school-age children declines by about 0.4 percent per year in the moderate population growth scenario. Alternatively, with continued high population growth from 2001 to 2004, the number of school-age children increases by about 0.3 percent per year.

In addition to the school-age population, a second factor affecting the number of children served is public school enrollment. Since the mid-1980s, the number of children enrolled in public schools has risen from about 88 percent of the school-age population to more than 93 percent. This may be due to fewer children attending private schools, as well as children starting school earlier and staying in school longer. Even though the number of school-age children hardly changes in either the moderate- or high-growth scenario for population, it is still possible that the number of children served could be significantly different if public school enrollment changes. If, for instance, public school enrollment were to rise to 98 percent of school-age children, it would mean an additional 34,000 students in 2004.

Significant Factors Affecting Costs — School superintendents and other education administrators indicated in the survey that child poverty and the increasing demand for highly trained workers will be the top trends affecting primary and secondary education expenditures. Our expenditure model captures both of these effects. The first, child poverty, affects expenditures because experts estimate that it costs more—roughly

25 percent more—to educate a child from a low-income family.[29] Between 1980 and 1990, Kentucky's child poverty rate rose about three percentage points, from 21 percent to 24 percent. To be conservative, we assume that the child poverty rate will not change in coming years.

Steven Gold, director of the Center for the Study of the States at the State University of New York and a national expert on state finance, observes that keeping up with inflation may not be sufficient to maintain service levels (1995a). We believe this is true of education, because of the spread of technology throughout the economy and the concomitant labor market demands for highly trained workers. The Kentucky Education Reform Act made technology a major part of the state's restructured education system, which has led to a surge in the use of technology by public schools (Geiger, 1995). A 1995 report from the General Accounting Office found that Kentucky is tied for seventh among all states in computers per student and also ranks "in the top 10 in the country in the percentage of schools reporting sufficient computer networks, fiber optic cables, televisions, cable television and VCRs" (Geiger, p. 1). The state's master plan for technology calls for having a computer for each teacher and one computer for every six students, but we currently have only one computer for every 10.2 students (Geiger). The cost of just maintaining the existing equipment can be daunting. The *Wall Street Journal* reported that large companies spend about $1,420 annually to support a single personal computer, although costs are expected to decline in coming years as technology improves. Instead of using a simple inflation rate to project the cost of primary and secondary education, we looked at the projected demand high-tech labor skills and used it as an indicator of how education costs might grow in the future.[30]

---

[29] Rafuse's report from the Advisory Commission on Intergovernmental Relations gives extra weight to the number of children living in households with incomes below the poverty line in calculating each state's primary and secondary education "workload" (1990). This is done "to allow for the higher cost of the compensatory and remedial programs that pupils from poverty households tend to require more often than pupils from other households" (p. 10). Many states, including Kentucky, apply a weight of about 1.25 to children in households below the poverty line in their school-aid formulas (ACIR).

[30] The use of technology in the economy is, we assume in our model, broadly reflected by the demand for computer services and technicians. Consequently, employment in SIC 737 (computer and data processing services) is employed as an "instrumental variable" in the regression equation used to forecast education costs per student. The Bureau of Labor Statistics (BLS) provides a low-, moderate- and high-growth forecast for employment in SIC 737 for the years 1992 through 2005, and we chose the moderate-growth forecast for our baseline spending projection. The BLS employment forecast, in turn, is based on BLS projections that business investment in computers will grow strongly through 2005, but at a slower rate than during the 1980s. George T. Silvestri,

Forecast **—** In the baseline forecast, Kentucky has moderate population growth after 2000, public school enrollment remains at 93 percent of the school-age population, the poverty rate is unchanged and technology use grows at the expected rate. Our projection is that primary and secondary education expenditures will grow about 70 percent from FY1994 to FY2004. This is higher than projected general fund revenue growth and consequently this function is forecast to consume a slightly larger percentage of general fund revenue in FY2004. The increase is very small, however.

What if . . . ? **—** One of the interesting features of our expenditure model is that we can change our assumptions about a factor—such as the poverty rate or technology growth—in order to demonstrate the effects of that factor on spending. For example, the baseline forecast assumes that the child poverty rate will remain unchanged during the next 10 years. However, the child poverty rate rose by about three percentage points between 1980 and 1990. What might happen to primary and secondary education spending if child poverty rates were to rise by two more percentage points between 1994 and 2004? Our budget model suggests that to maintain the quality of services, the additional expenditures could total $84 million over 10 years.

---

an economist at BLS, writes, "Robust growth is projected in some computer-related occupations attributable to the continuing spread of computer technology. Employment in the computer...occupations is expected to grow rapidly to satisfy expanding needs for scientific research and applications of computer technology in business and industry" (p. 76).

Some reviewers have challenged the appropriateness of using high-tech employment as an indicator of how education spending will have to grow in order to maintain quality of services. Specifically, one reviewer asked whether there is any precedent for using high-tech employment to project education expenditures. The same reviewer and another noted that increased use of technology in the classroom could diminish the need for books, teaching aids and other materials.

In response, we note that there really is not a well-established methodology for forecasting any kind of government expenditures, save inflating current expenditures to maintain real spending. However, some experts have noted that simply increasing spending projections at the rate of inflation is sometimes not enough to maintain quality of certain services. Second, it may be true that a generation from now computer use will be pervasive and the schools will be able to operate more efficiently and effectively as a result of technological advancements, but when the experts we surveyed looked at what might happen between 1995 and 2004, they envisioned large expenditures for computers, communications equipment, other kinds of hardware, software and support. With Kentucky still aiming to reach its goal of one computer for every six students (Kentucky currently has one computer for every 10.2 students), it would seem that we are still several years removed from the day when computers replace textbooks or students learn in "virtual classrooms." Finally, we note that our budget model projects primary and secondary education spending to grow about 6 percent a year (in current dollars). From 1978 to 1994, primary and secondary education spending grew 7.7 percent a year.

We can also ask how much primary and secondary education spending might change if the use of technology in the economy spreads faster or slower than expected. With a faster spread of technology, business would invest in more computers and related equipment and this would result in a demand for more high-skill workers. In order to keep pace with the labor market demand for people with high-tech skills, we project that primary and secondary education spending in FY2004 would have to be 74 percent above its FY1994 level. The cumulative additional cost could be about $450 million.

TABLE 6: Primary and Secondary Education Expenditure Projections
(Cumulative growth after FY1994)

		What if . . . ?			
	Baseline	**Child poverty rises 2 pct. points**	**More demand for high-skill labor**	**High population growth after 2000**	**Enrollment rises to 98% of school-age population**
1994	0%	0%	0%	0%	0%
1995	1%	1%	2%	1%	2%
1996	8%	8%	8%	8%	9%
1997	14%	14%	15%	14%	16%
1998	21%	21%	22%	21%	24%
1999	29%	29%	30%	29%	32%
2000	36%	37%	38%	36%	41%
2001	44%	45%	47%	45%	50%
2002	52%	53%	55%	54%	59%
2003	61%	62%	65%	64%	69%
2004	70%	71%	74%	75%	80%

Source: Kentucky Long-Term Policy Research Center
Hints for reading this table: Each column lists the cumulative growth of primary and secondary education spending from FY1995 through FY2004 when a single variable, such as child poverty, is changed from the baseline while all other factors are kept at baseline levels. Cumulative growth of 70 percent in FY2004 means that expenditures in FY2004 are projected to be 70 percent higher than they were in the base year of FY1994.

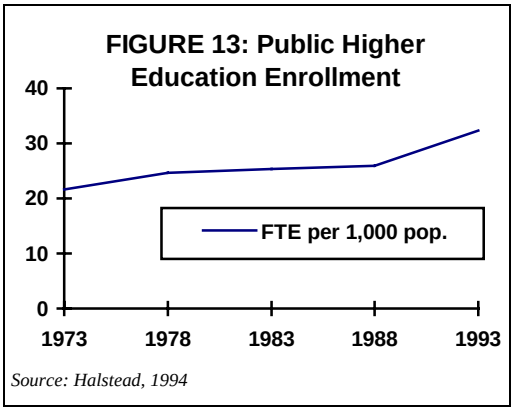
Keep in mind that there is no mechanism which automatically keeps primary and secondary education expenditures in step with the child poverty rate or the labor market demand for computer technicians. Kentucky might fall behind in its ability to prepare its students for high-tech employment or to give low-income children a good education. The forecasts really reflect expenditure *pressures*, and are meant to represent the budgetary response if Kentucky is to maintain its current level of service. In plain English, these scenarios ask, "If child poverty increases or the demand for high-skill labor grows faster than expected, how much more money will Kentucky have to spend to give its children as good an education as they're getting today?"

Even if child poverty rises *and* technology increases faster than expected, primary and secondary education spending is only projected to be a little above 48.5 percent of total general fund revenues in FY2004. We found in our review of historical budgets that primary and secondary education spending has received between 45 percent and 48 percent of the general fund budget since FY1978, and our forecast suggests that this will continue during the next decade.

Higher Education

While primary and secondary education has received about the same percentage of general funds for the past two decades, higher education's share has fallen since the mid-1980s. Today less than 15 percent of general fund revenues go toward higher education. Furthermore, while primary and secondary education are projected to continue receiving about the same percentage of revenues, our forecast suggests that higher education's share of general fund revenues will fall in coming years, perhaps to less than 13 percent of total expenditures by FY2004.

How Many People? — Higher education enrollment has risen sharply during the past decade. In the 1985-86 school year, the full-time-equivalent[31] (FTE) enrollment in Kentucky's public institutions was 87,000. In the 1993-94 school year, that number was 120,000. Measured another way, the annual FTE enrollment rose from 23.6 students per 1,000 people in 1985 to 31.6 students per 1,000 in 1991. For the forecast period, we assume that Kentucky's FTE enrollment will remain at 31.6 per 1,000 people through 2004. Hence, the number of people covered by the public higher education system is simply a function of the total state population. In the moderate-growth scenario, Kentucky's population is close to 4.1 million in 2004, so FTE enrollment would be around 129,000



[31] "Reported annual average FTE enrollment is computed as follows: total yearly undergraduate credit hours . . . are divided by 15 and for graduate students by 12; the resulting sum is divided by 2 if on a semester plan or by 3 if on a quarter plan." These figures exclude enrollments in medical schools (Halstead, 1994).

students; with high population growth after 2000, we project 131,000 full-time-equivalent students.

Significant Factors Affecting Costs — Engineers, architects, computer programmers, newspaper columnists, economists, business entrepreneurs and environmental scientists are but a sample of the countless people who receive their professional training in colleges and universities. Because so many high-skill professions increasingly require knowledge of, and facility with, computers and other advanced technology, it is not surprising that survey responses indicated that the rise of the Information Age and the need for higher skills in the workforce are the top two trends driving the costs of higher education upwards.

Similar to our projection of primary and secondary education costs, we used the labor market demand for high-skill workers as an indicator of how higher education costs might grow in the future. In this case, though, we projected the median per student spending by Kentucky's neighbors, and then assumed that Kentucky would spend a certain percentage of that median. Each year the Council on Higher Education compares Kentucky's spending per student to the median per student spending by 14 other states. Since the 1987-1988 school year, Kentucky's per student appropriations for higher education have ranged between 84 percent and 95 percent of the median for benchmark states.[32] Kentucky was at the lower end of this range during the 1992-93 and 1993-94 school years. By forecasting spending by our neighbors, we introduce a second factor affecting Kentucky's costs: whether or not we match our neighbors in per student spending.

In addition to revenue from taxes which all citizens must pay, higher education also receives revenue from tuition and fees paid directly by students. The Council on Higher Education sets tuition rates one or two years in advance and is trying to keep tuition rate increases from exceeding increases in the cost of living. Over the last 10 years, the average annual increase in tuition rates has ranged from 6.5 percent for community colleges and masters institutions to 7 percent for doctoral institutions. If the cost of higher education for students is not to exceed inflation in coming years, tuition rates would only rise by about 3 percent annually—less than half their average increase during the past decade.

[32] According to the Council on Higher Education, Kentucky's benchmark states are Georgia, Illinois, Indiana, Missouri, North Carolina, Ohio, Tennessee, Texas, Virginia and West Virginia.

***Forecast* —** In the baseline forecast Kentucky has moderate population growth after 2000, FTE enrollment remains at 31.6 per 1,000 people,[33] technology grows at the expected rate and Kentucky spends about 85 percent of the median per student spending by benchmark states.

Our projection is that higher education spending will grow less than 50 percent from FY1994 in FY2004. This is considerably lower than projections for any of the other major categories. Consequently, higher education spending is projected to fall from 14.5 percent of general fund revenues in FY1994 to less than 13 percent in FY2004. Tuition and fees are forecast to continue growing faster than general fund expenditures for higher education. We saw in the historical review of budget expenditures that the ratio of general fund expenditures to tuition and fees fell from 4:1 in FY1984 to 2.5:1 in FY1994. If tuition and general fund expenditures grow at their projected rates, the ratio in FY2004 will be less than 2.2:1. Furthermore, the tuition and fee numbers assume that tuition increases will be no greater than the projected inflation rate—a fairly low rate of about 3.3 percent a year.

***What if . . . ?* —** As we did with our primary and secondary education projections, we can change each assumption to see how a particular factor affects spending. The baseline forecast assumes that the proportion of the population enrolled in higher education will remain constant during the next 10 years. However, Figure 13 indicates that enrollment has been rising since the middle of the 1980s. What might happen to higher education spending if the percentage of the population enrolled in college were to gradually increase through 2004? Our model suggests that if FTE enrollment were to rise from 31.6 students per 1,000 people in 1994 to 33.6 in 2004, the cumulative additional expenditures could total more than $300 million over 10 years.[34]

---

[33] Why use FTE per 1,000 population instead of FTE per 1,000 people 18-25 or some measure of high school graduates? The number of "non-traditional" students is rising significantly. Between 1984 and 1993, the number of students age 25 or older increased by 60 percent. Including full- and part-time enrollments, these students now constitute 40 percent of Kentucky's higher education enrollment.

[34] This projection does not account for the fact that community college enrollments have increased much faster than enrollments in the four-year institutions. Hence, our estimate of the cost of increased enrollments might be an overestimate. This is possible. However, if it is an overestimate, we believe the error is small, for two reasons. First, we are projecting the increased cost of *full-time* equivalents, and it seems reasonable to assume that many of the new full-time students would attend a four-year institution. Second, the spending measure we use (because the Council on Higher Education uses it) partly eliminates the operating cost difference between four-year institutions and community colleges by subtracting expenditures for research, agriculture extension services, and medical, dentistry and veterinary schools.

TABLE 7: Higher Education Expenditure Projections
(Cumulative Growth After FY1994)

	Baseline	What if . . . ?			
		High population growth after 2000	More demand for high-skill labor	Full-time enrollment rises to 33.6 per 1,000	Match benchmark state spending
1994	0%	0%	0%	0%	0%
1995	5%	5%	5%	5%	7%
1996	9%	9%	9%	11%	13%
1997	14%	14%	14%	16%	21%
1998	19%	19%	19%	22%	28%
1999	24%	24%	25%	27%	36%
2000	29%	29%	30%	34%	44%
2001	33%	34%	35%	39%	52%
2002	38%	39%	40%	45%	60%
2003	43%	45%	45%	51%	68%
2004	48%	51%	51%	57%	77%

Source: Kentucky Long-Term Policy Research Center

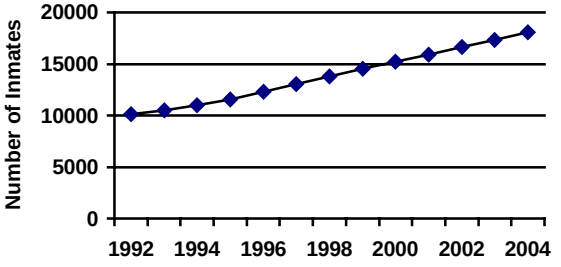
Recall that Kentucky's cost per FTE is assumed to remain at 85 percent of the benchmark state's median cost. However, our model will permit us to increase the percentage. If we gradually raise the percentage by 1.5 points each year, so that by 2004 we match the regional median, the impact on spending is potentially huge. Expenditures could rise more than 75 percent between FY1994 and FY2004, and the cumulative cost of matching benchmark spending levels could be more than $1 billion over 10 years, according to our model. In our projections, higher education's share of general fund revenues would have to rise slightly from its current level in order to match the benchmark states' spending.

Police and Corrections

Police and corrections, although small compared to primary and secondary education, higher education and health and hospitals, is an interesting category because of its high growth rates over the past 20 years. These high growth rates are projected to continue in the next decade, with police and corrections expenditures in FY2004 projected to be more than twice their FY1994 level (an increase of more than 100 percent).

***How Many People?* —** Obviously, prisoners comprise the population covered by corrections. Due more to changes in sentencing and parole guidelines than to rising crime rates, Kentucky's prison population rose from around 3,000 in 1970 to more than 10,000 in 1992 (Smith-Mello and Schirmer, 1994). The Kentucky Department of Corrections provided us with a forecast of the prison population through 2002. The Department of Corrections projects the prison population to rise to more than 16,600 by 2002. Using a simple time trend we extended the forecast two more years, with the population reaching 18,000 by 2004. While the corrections sub-category covers the prison population, we assume the state police, the public defender and various other agencies cover all Kentuckians.[35]

FIGURE 14:
Projected Prison Population



Source: Kentucky Dept. of Corrections

***Significant Factors Affecting Costs* —** The trends which survey respondents believe will have the greatest impact on total expenditures affect the number of people covered more than they affect the cost of coverage. The trends—such as poverty rates and rising juvenile crime—are already accounted for in the forecast of prison populations. The only factor which we include in our model to affect costs is the inflation rate.

***What If . . . ?*[36] —** Kentucky's prison population is growing much faster than the total population, and this has led to rapidly rising expenditures for corrections. As a result, Kentucky is studying and implementing alternatives to traditional incarceration. These include "boot camps for youth offenders, privatization of minimum security

[35] The Advisory Commission on Intergovernmental Relations double counts the population between 18 and 24 when calculating a state's workload for police expenditures. We tried this as well and found it made a negligible difference in our expenditure projections.

[36] Two of our reviewers noted that the United States as a whole expects a significant increase in the 15-to-24- year-old age cohort during the next 15 to 20 years and asked whether we had taken this into consideration when making our prison population projections. However, this trend is decidedly not anticipated to affect Kentucky. As a matter of fact, the high growth population projection from the State Data Center forecasts Kentucky's 15-to-24-year-old age group to *decline* by 9,200 people between 1995 and 2010. The projected decrease is even larger in the moderate growth forecast.

prisons, contracts with jails and halfway houses for extra beds, community labor, work release and home incarceration programs" (Smith-Mello and Schirmer, 1994, p. 149). If these measures were able to keep Kentucky's prison population constant relative to the overall population, police and corrections spending growth could slow considerably. Police and corrections expenditures would only be projected to grow 57 percent between FY1994 and FY2004, and savings could total $500 million over 10 years.

Corrections costs might be lowered as a result of privatizations and the introduction of technology. And the Kentucky State Police increasingly use technology to make operations more efficient and effective. In light of these changes, we examined the budgetary impact if corrections or police *costs* (not expenditures) were 10 percent lower than their baseline projections. According to the model, lowering police costs by 10 percent could reduce cumulative expenditures by $135 million over 10 years, while lowering corrections costs by 10 percent could reduce cumulative expenditures by about $290 million over 10 years.

TABLE 8: Police and Corrections Expenditure Projections
(Cumulative Growth After FY1994)

		What if...?		
	Baseline	**Prison population growth slows to total pop. growth**	**Corrections costs 10% lower**	**Police costs 10% lower**
1994	0%	0%	0%	0%
1995	8%	8%	0%	4%
1996	17%	13%	9%	13%
1997	27%	19%	18%	23%
1998	38%	24%	28%	33%
1999	48%	30%	38%	43%
2000	59%	36%	48%	54%
2001	70%	41%	58%	64%
2002	82%	46%	69%	76%
2003	94%	51%	80%	88%
2004	107%	57%	92%	101%

Source: Kentucky Long-Term Policy Research Center

Health and Human Services

As a percentage of general fund revenue, health and human services spending was second only to primary and secondary education in FY1994, at 18.3 percent, and surpassed higher education after the tax increases of 1990. Health and human services' share of general fund spending is projected to continue growing; our forecast suggests that this

category may receive more than 25 percent of general fund revenues by FY2004.

How Many People? **—** This function is divided into three sub-categories: health and hospitals, other human services, and Medicaid. We assume that all Kentuckians are covered to some extent by health and hospitals, so this sub-category is affected only by growth of the total population. The number of people covered by other human services, which encompass Employment Services, Social Services and Social Insurance, among others, is a function of total population and the poverty rate. Medicaid covers a number of eligible groups—the disabled, the aged, the blind, and welfare recipients. The Department for Medicaid Services has separately projected the number of eligible recipients for each category through 1998. We used these numbers for our projections, with two exceptions. First, we assume a slightly lower growth rate in the number of disabled recipients. Even our numbers, however, represent a dramatic rise in the number of Kentuckians eligible for Medicaid because of disability. In 1983, only 1.5 percent of the total state population received Medicaid because of disability. By 1994, it was 3.2 percent of all Kentuckians.[37] This represents an increase of 65,000 disabled people eligible for Medicaid. Second, our projection of AFDC and AFDC-related recipients is a function of the poverty rate and the welfare enrollment rate. For projections beyond 1998, we assume that roughly half of the state's poor will be eligible for Medicaid through AFDC; we assume that 9 percent of the state's elderly population (65 and older) will receive Medicaid as "Aged" recipients; we assume a rising percentage of the state's population will be eligible for Medicaid because of disability (again, due in part to the aging of the population); and we assume that about 0.5 percent of the total population will be eligible because of blindness.

Significant Factors Affecting Costs **—** The only factor affecting the cost of health and hospitals or other human services in our model is inflation. For Medicaid, the state is planning to implement a managed care program which is expected to reduce costs considerably. According to the Cabinet for Health Services, the plan would save Kentucky about $171 million a year when fully implemented (Lawson, 1995). This

[37] One reason why we have seen such an increase in the number of people eligible because of disability is the aging of the population. The older a person is, the more likely he or she is to be eligible because of a disability. Also, when disabled recipients become old enough to receive Medicaid because of their age, they frequently are not reclassified as "Aged."

represents approximately 7 percent of current Medicaid expenditures in Kentucky (including federal expenses). The plan should be in effect by the end of 1996, so we assume costs per eligible recipient in every category will be 7 percent lower beginning in FY1997. This is a generous assumption for two reasons. First, not all Medicaid recipients will actually be covered by the managed care plan. Second, the projected savings of $171 million a year will only be realized once the program has been in place for several years.

Forecast **—** In the baseline forecast, Kentucky has moderate population growth after 2000, the poverty rate is unchanged, and the managed care plan for Medicaid is implemented and meets expectations for savings. Our projection is that health and human services spending will increase about 133 percent from FY1994 to FY2004, and this category will grow to consume more than one-quarter of all general fund revenues.

The three sub-categories are projected to grow at much different rates. While Medicaid spending in FY2004 is projected to be 160 percent above its FY1994 level, health and hospitals is projected to increase 120 percent and other human services only 80 percent. All three categories grow faster than revenue, but spending for the two health care-related categories clearly increases faster than spending for other human services.

One factor which we have not yet mentioned is the health care provider tax. Our health and human services spending forecast assumes that the health care provider tax will not be repealed, that revenues from this tax will grow by 5 percent a year, and that these revenues offset expenditures which would otherwise be covered by the general fund. In other words, without the $150 million or so which the health care provider tax brings in each year, general fund spending for Medicaid would likely be even higher.[38]

What if . . . ? **—** Poverty affects two sub-categories—Medicaid and other human services. In our budget model, raising the poverty rate by 2 percentage points over 10 years causes health and human services spending to be more than $470 million higher between FY1994 and FY2004. Of the $470 million increase, other human services account for about $330 million, while Medicaid accounts for $140 million. In this scenario, other human services expenditures increase 105 percent

[38] After we completed this analysis (and shortly before we went to press), the Governor and the Kentucky Medical Association reached an agreement to eliminate a portion of the health care provider tax.

between FY1994 and FY2004, compared to an 80 percent increase in the baseline projection.

TABLE 9: Health and Human Services Expenditure Projections
(Cumulative growth after FY1994)

		What if . . . ?		
	Baseline	**Health and hospitals costs 10% lower**	**Poverty rises 2 pct. points**	**No managed care for Medicaid**
1994	0%	0%	0%	0%
1995	16%	14%	17%	17%
1996	25%	23%	27%	27%
1997	29%	27%	32%	35%
1998	40%	38%	43%	47%
1999	54%	51%	58%	61%
2000	67%	64%	73%	75%
2001	82%	78%	89%	91%
2002	97%	94%	106%	107%
2003	115%	111%	124%	125%
2004	133%	129%	145%	145%

Source: Kentucky Long-Term Policy Research Center

As we did with police and corrections, we looked at the overall effect of lowering costs per person. If health and hospital costs could be lowered by 10 percent, our model projects savings of more than $250 million over 10 years. Another possibility is lowering Medicaid costs. In fact, Kentucky has made its Medicaid system much more efficient in recent years and is expecting even greater savings by putting Medicaid patients on managed care plans beginning in FY1997. Since these changes have already been approved, we incorporate them into our baseline forecast. But it is interesting to see how much more the state might have spent if the new program hadn't been approved (or if it fails to meet expected savings). Without the managed care for Medicaid, total health and human services spending is projected to grow 145 percent between FY1994 and FY2004, compared to a 133 percent increase if the program is implemented successfully. The cumulative additional cost could be nearly $600 million over 10 years.

Highways

Highways receive very little funding from the general fund. In FY1994, less than one-tenth of 1 percent of general fund revenues were spent on highways. Since the late 1980s, funding for this category has come principally from the federal government and the road fund. Since the 1970s, growth in road fund revenues has been extremely sluggish.

Improved fuel efficiency and the increased use of alternative fuels are eroding the tax base for the road fund, and this partly explains the slow growth in revenues. The budget model we have constructed is only for the general fund, and highways, as we have noted, consume a negligible amount of general funds. Therefore, our discussion of future highway expenditures relies on responses to the survey we sent to state officials.

Transportation officials note that investment in the state's highways has declined since the 1970s in inflation-adjusted dollars. Congestion of the state's highways has increased, numerous bridges in western counties need to be retrofitted for earthquake protection, and an older population requires better signs and markings, lighting, guardrails and other protective devices. Furthermore, the highways built two or three decades ago are beginning to need major renovations.

Increasing environmental legislation is another trend which will drive up expenditures in coming years. The Transportation Cabinet is responsible for developing waste management procedures, pollution prevention techniques and groundwater protection plans. New regulatory programs add costs to projects and are extremely difficult to budget for. Transportation officials also report that regulators are applying increasingly stringent regulatory interpretations and are focusing their efforts at the state and local level.

Ultimately, technological upgrades in facilities will require additional investment in our highways. Satellite and roadside surveillance and control devices have already been developed and are now being tested. "Smart cars" and Intelligent Transportation Systems are emerging technologies.

All Other Spending

This category includes general fund expenditures for everything that is not classified as education, police and corrections, health and human services, or highways. We have already noted that there are numerous agencies, departments, even cabinets, which fall into this category. Since the mid-1970s, the percentage of general funds left over for all other spending has gradually declined, from about 16 percent in FY1980 to about 12.6 percent in FY1994. We forecast all other spending to consume about 12.1 percent of general fund revenue in FY2004.

Because of the variety of programs and functions included in this category, we simplify our task tremendously by assuming that all Kentuckians, to some extent, are covered by all other spending.

Furthermore, the only factor affecting costs in this model is inflation. We simply increase per capita cost each year by the inflation rate, and multiply by the total population to get our projected total expenditures. We looked at how much money the state might save if broad reforms were enacted to lower the general cost of running the government. By reducing all other costs per person by 10 percent, the state could enjoy cumulative savings of close to $1 billion over 10 years.

TABLE 10: All Other Expenditure Projections
(Cumulative growth after FY1994)

	Baseline	What if . . . ? Costs 10% lower
1994	0%	0%
1995	7%	-7%
1996	12%	-2%
1997	18%	4%
1998	24%	9%
1999	31%	15%
2000	37%	21%
2001	43%	26%
2002	49%	31%
2003	55%	36%
2004	61%	42%

Source: Kentucky Long-Term Policy Research Center

Alternative Scenarios

"There is no such thing as a free lunch."
Milton Friedman

As the U.S. economy limped through the early 1990s, states from coast to coast watched tax revenues grow sluggishly while spending, particularly for Medicaid and prisons, seemed only to accelerate. What made these years particularly difficult for the states was the fact that many were without adequate budget reserves. Revenue shortfalls and budget cutbacks were frequent. When recession strikes, states can sometimes delay disaster with one-shot gimmicks, such as collecting certain revenues ahead of schedule or selling state assets, or else they might shift costs to other levels of government or individuals. But ultimately, a downturn in the economy can wreak havoc with the finances of an ill-prepared state.

Recessions are not the only specter haunting state budget officers. Revenues from the federal government are almost certain to have new limits. With entitlements currently absorbing 61 percent of the federal budget and forecast to take 80 percent by 2005, reduced entitlement payments are almost unavoidable if the United States is to have a balanced budget. *Business Week* writes that federal social spending could fall $20 billion below levels needed to maintain current benefits (Gleckman, et al., 1995). Even before the federal government's overhaul of entitlement programs, states were spending an average of more than 18 percent of their budgets on Medicaid alone (Lemov, 1995a). Where will states tap more money for entitlements if the federal well dries up? Education, most likely. From 1989 to 1995, education's share of state budgets has fallen from 49 percent to 43 percent, while prison and Medicaid spending have grown dramatically (Gleckman). Indeed, the historical budget trends discussed earlier are by no means unique to Kentucky.

Although education spending has been sacrificed in state houses from coast to coast, it is still lower in Kentucky on a per pupil basis than in many other states. The Southern Regional Education Board reports that

among 15 southern states, Kentucky has had the largest decrease in education funding per college student since the mid-1980s. And even in the wake of KERA, primary and secondary education funding per pupil remains lower—more than 10 percent lower—than the average for surrounding states (National Center for Education Statistics, 1994). Commenting on KERA, one observer asked, "How are we ever going to know whether it works if we don't fully fund it?"

The vagaries of the economic cycle, the uncertainties enveloping federal funds and the untapped possibilities of our education system all suggest that a variety of budget scenarios are possible in coming years. A major policy shift in Washington or Frankfort or a recession could change the budget outlook dramatically. In this chapter we examine four such scenarios:

- An expanded commitment to higher education;
- An expanded commitment to primary and secondary education;
- A change in federal Medicaid spending;
- A recession.

As always, the budget projections based on these alternative scenarios do not pinpoint the exact amounts by which expenditures or revenues will change. Rather, they illustrate the magnitude of the impact these events might have on the budget.

ALTERNATIVE ONE: EXPANDED COMMITMENT TO HIGHER EDUCATION

In Kentucky, college enrollment and spending per student both lag behind other states in the region. For the past several years, Kentucky's spending per student has been only 84 percent to 95 percent of the median spending by 10 benchmark states. In 1993 and 1994, Kentucky was at the low end of the range, and our baseline forecast assumes that Kentucky's spending per student will remain about 15 percent below the median in the coming years. Furthermore, Kentucky's full-time equivalent (FTE) enrollment is 31.6 students per 1,000 people, while the regional average is approximately 33.6. The "expanded commitment to higher education" scenario includes a gradual increase in both spending per student and college enrollments to meet the regional averages in 2004.

Clearly, the costs would be formidable. Our analysis suggests that spending for higher education in FY2004 would be nearly 90 percent above the FY1994 level, compared to a 50 percent increase in the baseline projection. The total cost of the expanded commitment to higher education would be more than $1 billion over 10 years. Figure 16 on page 64 shows that if spending for other functions is unchanged from the baseline levels, higher education spending could exceed 16 percent of general fund revenues, and total spending for all categories would then exceed revenues by more than 8 percent.

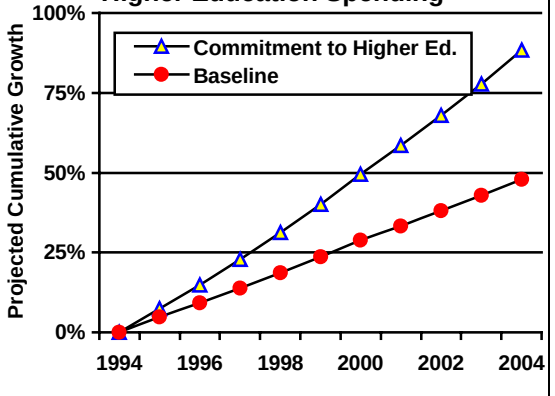
Did You Know...?

Nationally, the annual increase in state appropriations for higher education was **no more than** 3.5 percent in any year from 1991 through 1994, while the annual increase in average tuition and fees at public universities was **no less than** 6 percent in any year.

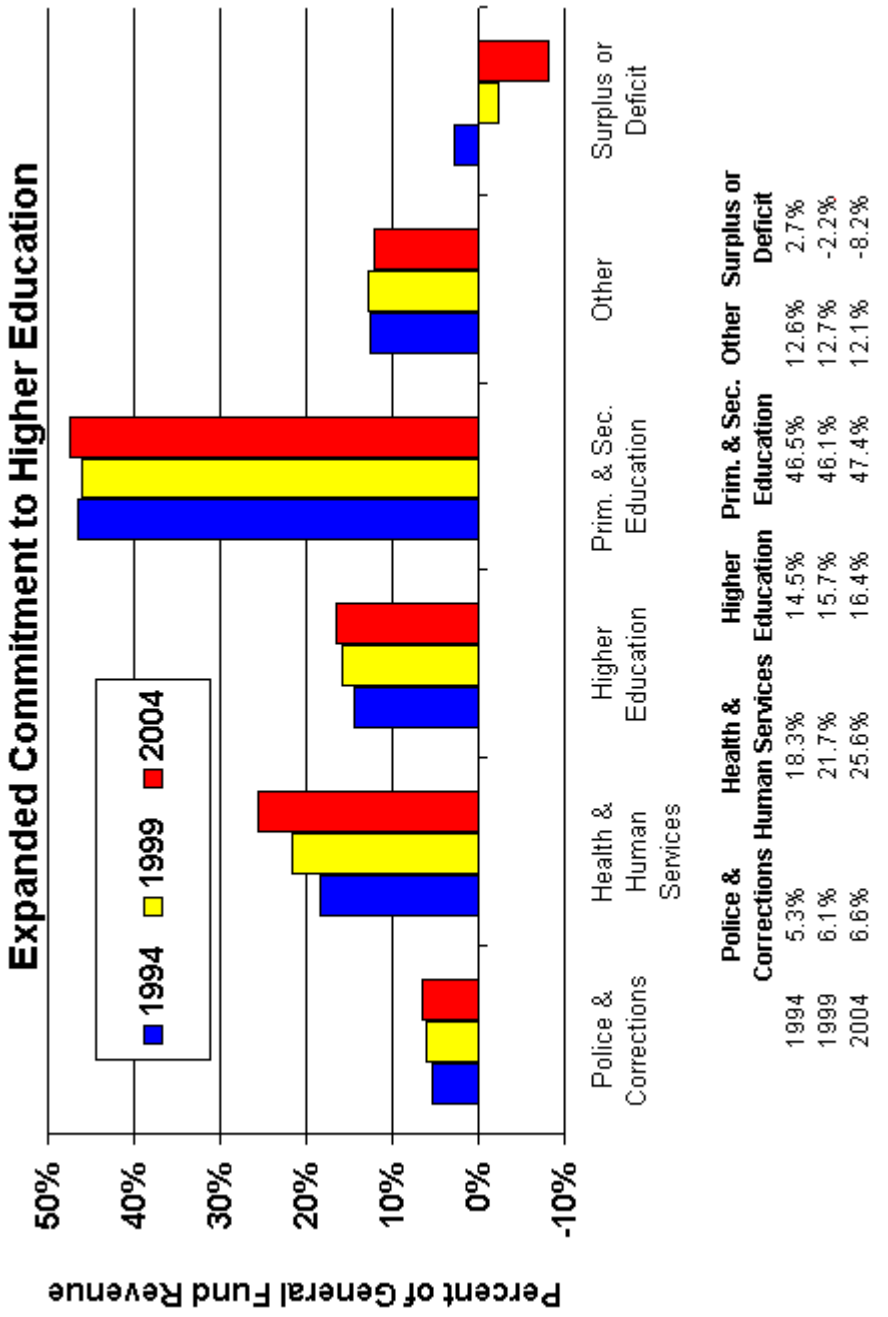
Sources: Center for Higher Education at Illinois State University and National Center for Education Statistics, reported by Gold (1995b).

This scenario assumes tuition and fees (which are paid by students) will only increase at the rate of inflation. Tuition and fees might be raised more quickly in order to provide higher education with additional funds, but such a policy probably would not help close the spending gap, since year-to-year tuition increases in other states are often quite high. If tuition only increases at the rate of inflation in Kentucky while other states raise tuition faster, the gap in total funding might actually grow. In this case, general fund appropriations would have to increase even more than we predict if higher education spending is to match the benchmark states.

FIGURE 15: Projected Growth in Higher Education Spending



Source: Kentucky Long-Term Policy Research Center



	Police & Corrections	Health & Human Services	Higher Education	Prim. & Sec. Education	Other	Surplus or Deficit
1994	5.3%	18.3%	14.5%	46.5%	12.6%	2.7%
1999	6.1%	21.7%	15.7%	46.1%	12.7%	-2.2%
2004	6.6%	25.6%	16.4%	47.4%	12.1%	-8.2%

ALTERNATIVE TWO: EXPANDED COMMITMENT TO PRIMARY AND SECONDARY EDUCATION

The Council on Higher Education uses a well-accepted measure to compare higher education funding in Kentucky to funding levels in other states. Unfortunately, comparing primary and secondary education spending per student is not as easy. There are a variety of ways to compare spending across states, and the issue is further complicated by different reporting and accounting practices in different states. The measure we use is total state and local current expenditures per average daily attendee, which is reported by the National Education Association. By this measure, Kentucky's per pupil spending is about 15 percent lower than the median for our seven surrounding states. (The gap was even larger before KERA went into effect.) In our "expanded commitment to primary and secondary education" scenario, expenditures gradually rise to meet the median for the surrounding states by FY2004.

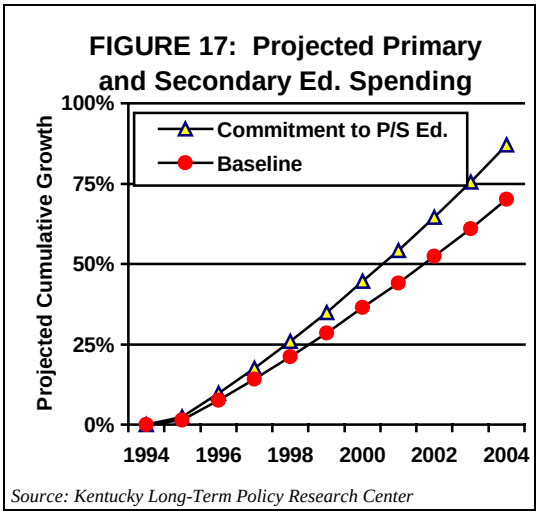
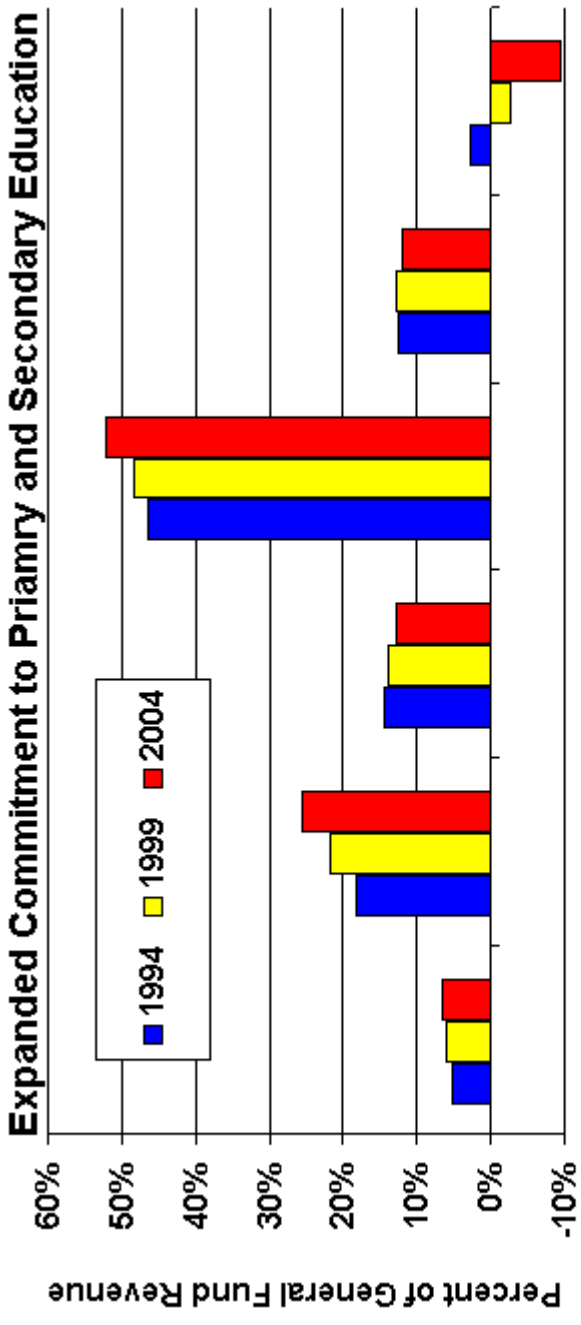


FIGURE 17: Projected Primary and Secondary Ed. Spending

Source: Kentucky Long-Term Policy Research Center

Before we made our budget projection for this scenario, we made two conservative assumptions. First, we assumed that local governments will bear their share of the cost of increasing total spending per student. If the state were to bear the entire additional cost by itself, expenditures would be much higher. Second, because measurement of primary and secondary education expenditures is tricky and comparisons based on one set of numbers might yield results different from comparisons based on another set of numbers, we assumed that our numbers are at the pessimistic end of the spectrum and that Kentucky would only need to increase spending by 10 percent (as opposed to 15 percent) in order to be roughly equivalent to the other states.

Even using these conservative assumptions and gradually increasing expenditures over 10 years, we project a huge cost—$1.8 billion cumulative—and a deficit of more than 9 percent of general fund



	Police & Corrections	Health & Human Services	Higher Education	Prim. & Sec. Education	Other	Surplus or Deficit
1994	5.3%	18.3%	14.5%	46.5%	12.6%	2.7%
1999	6.1%	21.7%	13.8%	48.4%	12.7%	-2.7%
2004	6.6%	25.6%	12.9%	52.2%	12.1%	-9.4%

revenues in FY2004. Spending for primary and secondary education would rise 87 percent from FY1994 to FY2004, compared to a baseline increase of 70 percent.

ALTERNATIVE THREE: REDUCED FEDERAL FUNDING FOR MEDICAID

In 1889, Congress was pilloried for its lavish spending when the budget for the whole nation surpassed $1 billion. A century later, one of the most fiscally conservative Congresses in decades proposed to spend approximately $13.3 billion over seven years on a single program—Medicaid—in a fairly small state—Kentucky. Even more remarkably, this $13.3 billion represented an effort by Congress to *slow spending* on Medicaid. But simply cutting the amount of money the federal government spends on Medicaid does nothing to increase efficiency or lower total costs. If coverage and quality of services are to remain the same, reduced federal spending simply shifts more of the burden to the states. Estimates of the cost of Kentucky's additional burden vary. The Urban Institute in Washington projected that the proposal to spend $13.3 billion for Medicaid in Kentucky would have cut state revenues by $4.3 billion between FY1996 and FY2002; Kentucky's Cabinet for Health Services projected a reduction totaling about $3.4 billion. Our estimate is that the state would lose roughly $700 million by FY2002 and $2 billion by FY2004.[39] The Urban Institute and the Cabinet for Health Services project gloomier scenarios than we do,[40] but even using our estimates the state could have a general fund deficit of nearly 14 percent by FY2004, and health and human services spending could amount to more than one-third of all general fund revenue—almost double its current share—if we are to maintain the coverage and the quality of services in the Medicaid program.

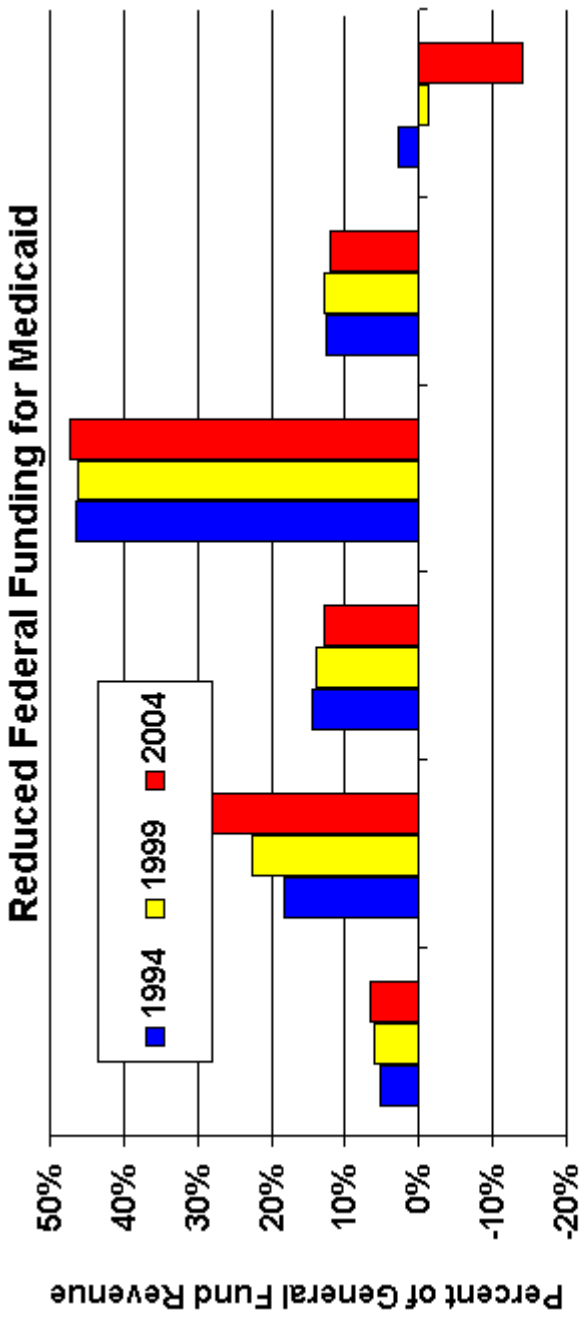
Medicaid spending caps are by no means assured. In fact, at press time the conventional wisdom is that the Medicaid spending limits are not going to be passed until at least 1997, if at all. However, as the political

[39] We extend our projections of federal Medicaid spending to 2004, while the Urban Institute and the Cabinet for Health Services only forecast funding through 2002. The maximum growth rate after 2002 is supposedly 4 percent, and that is the amount by which we increased federal funding in 2003 and 2004. Also, there is more than one proposal for Medicaid spending. The $13.3 billion cap is but one possibility, and cost estimates from anybody are only ballpark figures.

[40] Perhaps one reason why our estimated loss in federal revenues is less than estimates from the Urban Institute or the Cabinet for Health Services is that we incorporate managed care savings into our projections, while the other two evidently do not.

tides ebb and flow, the size and shape of budget proposals change; compromises are made and broken, and bills may be rewritten overnight. In the first chapter of this report we cautioned against overconfidence in our budget projections, for many factors are subject to change in ways we cannot foresee. In no case is this truer than with federal Medicaid policy. What is equally true, however, is that we are looking at losing potentially huge amounts of money. Be it $700 million, $3.4 billion or $4.3 billion, the lost Medicaid dollars will not be easily found elsewhere.

Even if the present Medicaid system remains intact, fiscal conservatism is highly contagious in Washington these days, and the state should count on federal funding for all programs to grow slowly at best over the next several years. Furthermore, the entitlement aspects of many federal programs are quite likely to be reduced, if not eliminated altogether. Thus, in addition to reduced federal funding overall, there will be no mechanism in place whereby states receive more funding during recession years—precisely when revenue growth is slowest and demands on social programs are greatest. We explore the possible effects of a recession in the next section of this chapter.



	Police & Corrections	Health & Human Services	Higher Education	Prim. & Sec. Education	Other	Surplus or Deficit
1994	5.3%	18.3%	14.5%	46.5%	12.6%	2.7%
1999	6.1%	22.5%	13.8%	46.1%	12.7%	-1.2%
2004	6.6%	34.9%	12.9%	47.4%	12.1%	-13.9%

ALTERNATIVE FOUR: A MILD RECESSION IN 2002

Though the Bureau of Economic Analysis (BEA) projects average annual growth in personal income to be about 1.9 percent through 2005, it is important to recognize this figure for what it is—a projected *average* that does not wholly capture the year-to-year variations we can expect in state economic performance over the next decade.[41] Within this time-frame, our economy's historical growth path suggests that we will not experience the smooth, rising trend implied by an average growth rate, but rather a continuation of the series of steps, stumbles, and setbacks that occasionally interrupt the momentum of economic expansion and, in doing so, comprise our business cycle. Since World War II, the U.S. has experienced approximately two recessions per decade averaging an estimated 10 months each. Because of the relatively high probability that we will experience at least one such contraction in the next 10 years, it is important to examine the impact that even a "small" recession could have on Kentucky's fiscal fitness.

Our baseline revenue analysis does not reflect the revenue shortfall that would most likely be incurred in a recessionary environment as a result of a characteristic decline in personal income. In order to isolate the impact of a recession on both revenues and expenditures, our scenario, therefore, momentarily discards BEA projections and arbitrarily introduces a rather gentle business slump in FY2002.

This relatively mild recession scenario assumes zero growth in aggregate personal income in 2002, an inflation rate 2 percentage points lower than the baseline forecast, and a poverty rate that rises 2 percentage points as a reflection of rising unemployment. Aside from slower growth in the spread of technology, all other assumptions remain consistent with the baseline.

Though other graphs in this report look at expenditures or revenues over several years, Figure 20 only reflects an alternative to our baseline forecast in a single recessionary year. This graph demonstrates the significant impact that even this minimal deviation might have on the integrity of the general fund. While our analysis projects expenditure growth to increase slightly, it also projects revenue growth to slow to only about 1 percent, compared to 5 percent growth in the baseline forecast.

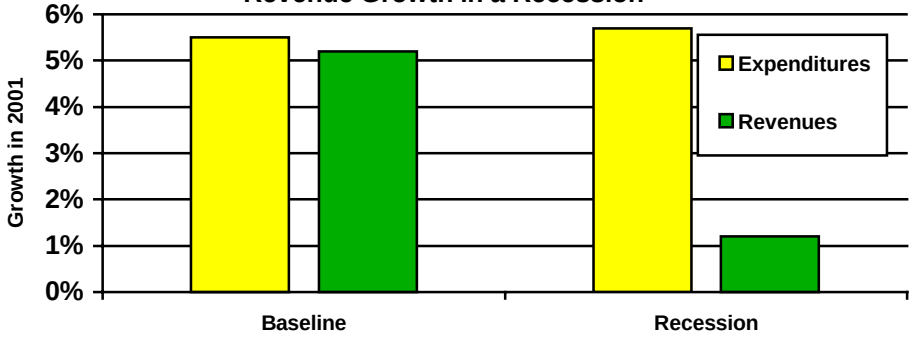
[41]BEA projections are for the 13-year period beginning in fiscal year 1993 and ending at the conclusion of fiscal year 2005.

Instead of a baseline deficit of 3 percent in FY2002, the slow revenue growth could create a deficit of more than 5 percent.

Because a balanced budget is required under our state constitution, the cost of such stagnant growth would not be borne by an imaginary deficit, but by real cutbacks that affect real people in a time of need. Indeed, policymakers under constitutional constraints would face immense pressure to slash the funding of every major expenditure classification even while rising poverty and unemployment would put increased pressure on health and human services spending, the prison population would likely rise and more people may decide to enroll or remain in college, rather than compete in a tight job market.

Historically, in times of financial crisis, we have been able to count on federal fiscal policy to provide considerable assistance. Today, however, fiscal responsibility has, to a large degree, been shifted to the states—providing considerable question as to the extent to which we can rely on federal intervention. Unable to print money, the importance we place on protecting our budget reserve fund must be heightened.

FIGURE 20:
Projected Expenditure and Revenue Growth in a Recession



Source: Kentucky Long-Term Policy Research Center

CONCLUSION

As Kentucky strives to create an education system capable of supporting world-class industries, we see the enormity of the challenge before us. Compared to similar states, we spend about 15 percent less per pupil at all levels of the education system, and a smaller percentage of our population attends college. Can we match spending and attendance in other states? Unless spending in the other states slows down, it isn't likely. The two education scenarios project spending to exceed revenues

by 8 or 9 percent by the middle of the next decade. Fortunately, though, spending per pupil is not the sole metric of the quality of an education system. Quality may improve by utilizing previously untapped resources, and money may be saved by increasing efficiency and cooperation. The budget scenarios show that these changes are absolutely imperative if the state education system is to meet the demands of the coming century.

At least Kentucky enjoys the luxury of deciding whether or not to change education policy. Kentucky cannot, however, make decisions about federal policy or the performance of the economy; we can only prepare ourselves for what might happen. First, Washington will try to wean states from federal funding, but this will likely be accompanied by broader decision-making authority for states. Second—and this is almost inevitable—the economy will surge some years and slump others. With recession comes rising expenditures and slow revenue growth. In the last chapter of this report, we look at some ways that we might save money for education, prepare for a new era of federalism, and protect ourselves from financial rainy days.

Recommendations

"Put money in thy purse."
William Shakespeare

We began this report by saying, "If you want to know what a government does, look at how it spends its money." We conclude with a variation on this statement: "If you want to know how a government will spend its money in the future, look at what it's doing." This is precisely what two journalists from *Financial World* did when they graded the 50 states on their financial management. In surveys, interviews and meetings, they asked, "How realistic are assumptions on both the revenue and expenditure side?...Is the state putting aside money for economic downturns?...Are current-year revenues sufficient to fund expenditures?...How good is long-term planning?...Is adequate attention paid to the future financial impact of legislation?" and the list goes on (Barrett and Greene, 1995, p. 38). Responsible fiscal management and planning today make for stable, predictable, effective budgets in the coming years.

Kentucky has already received high marks for its financial management, but there is always room for improvement. In this final chapter we offer four recommendations which should brighten Kentucky's fiscal outlook:

- Take stronger measures to ensure that the budget reserve fund is adequately funded and adequately protected;
- Keep alive the spirit of the Governor's Commission on Quality and Efficiency by searching for new ways to cut costs and improve efficiency;
- Be diligent in finding opportunities to improve our investment in the future through education;
- Ensure that our tax structure provides adequate revenues for state programs.

STRENGTHEN THE BUDGET RESERVE FUND

When the economy is strong and revenues are flowing into state treasuries, the politically expedient policy is to spend money on additional projects or to cut taxes. This is what many states did after the economy took a turn for the better in the mid-1990s (Gold, 1995; Kelly, Weber et al., 1995). "Enjoy it while it lasts," writes *Business Week*. Just a few years earlier, the very same states which now have budget surpluses were wracked by budget shortfalls and had to choose between painful spending cuts and unwanted tax increases. Since those troubled times, more than a dozen states, including Kentucky, have passed legislation or constitutional amendments to bolster their reserves (Lemov, 1995b). The states have enacted a variety of measures to boost rainy day funds—some must save 1 percent or 2 percent of their revenues each year, others take a percentage of revenue growth to allow more spending flexibility in lean years, and some use more complicated formulas. Strengthening the reserves not only means putting money into the fund, but making sure that money is not frivolously taken out of it, so states put restrictions on how and when the reserves can be spent—only during a fiscal emergency, only when the reserves reach a certain percentage of annual revenue, or only with a super-majority vote by the legislature (Lemov).

In a special session in August, 1995, Kentucky passed a bill which created a continuing reserve account within the general fund. By doing so, the reserve account must be reflected in all financial reporting. The actual provisions for funding the reserve fund are rather weak: the reserves cannot exceed 5 percent of actual general fund receipts, and any deposits made to the fund out of excess revenues are made after the state implements its surplus expenditure plan, if it so chooses. Protection of the reserve fund is even weaker: reserve funds may be appropriated at any time by the General Assembly. It's like saving money by putting it into your wallet instead of the bank.

Arguably, some states are too restrictive in the use of reserve funds, thus hamstringing flexibility and wasting opportunities. States may find themselves borrowing money when they have millions of dollars sitting in their coffers. One solution might be to do what South Carolina originally did with its reserve fund: limit spending to non-recurring items except in emergencies (Lemov, 1995b). As it now stands, however, there are few restrictions on how or when Kentucky's rainy day fund can be spent. The temptation to spend surplus revenues might be too great, and

Kentucky may find itself short-handed in a true fiscal crisis. Our recession scenario in 2002 gives us a budget shortfall of $300 million, or roughly 5 percent of general fund revenues. In the absence of a sound reserve fund, the budget effects of the recession could be brutal.

Maintaining a sound budget reserve will be even more imperative if entitlement aspects of federal programs are eliminated and federal funding of social programs comes in the form of block grants. Without a mechanism for increasing federal money during a recession—when revenue growth is slowest and demands on social programs are greatest—states may find it especially difficult to maintain the quality and coverage of services.

KEEP REFORM ALIVE

In its 1994 report, the Governor's Commission on Quality and Efficiency examined past budgets and noted that Kentucky had suffered budget shortfalls in 9 of the last 12 budget cycles and 4 of the last 7 years. In our report, we predict that budget shortfalls will continue to be a way of life, funds will not be available to make an expanded commitment to education, and a recession or a change in federal Medicaid policy would require severe spending cuts. Whether the Commission studies the past or we gaze into the future, the conclusion is the same: in the words of Jim Gray, chairman of the Commission, "We must change the way we manage our government."

Together, the Commission on Quality and Efficiency and the Commission on Kentucky's Government (formed in the late 1980s) issued close to 400 proposals for improving the operations of state government. The Commission on Quality and Efficiency estimated that its proposals could save over $1 billion cumulative from 1995 to 1999. Our report does not even approach the level of detail in the two commission reports with regard to suggesting ways the state can save money. What we can do instead is give policymakers an idea of where they have the greatest points of budgetary leverage—which factors they can control and which factors have (in our budget model, at least) the largest impact on state spending.

It would be impossible to try to capture in our model all of the countless variables underlying government fiscal policy, but we have attempted to identify and incorporate the issues most likely to affect future budgets. From population growth to police costs, from the poverty rate to the public school enrollment rate, we separately and systematically

made a reasonable change in each variable to see how it might affect spending in the future.[42] We classified each variable as "High Impact" or "Low Impact," based on the cumulative change in spending between FY1995 and FY2004. Each variable was also classified as "High Leverage," "Medium Leverage," or "Low Leverage," based on our perception of the extent to which state policymakers can manipulate the variables.[43]

TABLE 11: Points of Leverage

State Leverage	Low Expenditure Impact (Under $500M Cumulative)	High Expenditure Impact (Over $500M Cumulative)
High	• Police costs • Prison costs • Health (non-Medicaid) and hospital costs	• "All other" costs (expenditures excluding the 4 major functions) • Medicaid costs • Incarceration rate
Medium	• College enrollment • Welfare enrollment • Poverty rate	• Match education spending • Public school enrollment
Low	• Population growth • Technology growth	• Federal Medicaid spending

Source: Kentucky Long-Term Policy Research Center

What results is a matrix with which we classify each variable in our budget model. This classification scheme highlights issues which merit further investigation, either because they offer the real potential of reducing costs or because they could become a fiscal headache in future years. For example, the incarceration rate is classified as "High Impact, High Leverage." As we have already noted, rising prison populations in Kentucky are due more to changes in state policy than to a rising crime rate. Our model suggests that if the prison population were to grow at the same rate as the non-institutionalized population (as a result of alternative sentencing, for example), police and corrections spending could be reduced by about $500 million between FY1995 and FY2004. Clearly,

[42] Our model captures first-order effects only. When we raise the poverty rate to see how spending changes, we do not calculate the long-term effects of poverty on crime or economic development. When we raise college enrollments, we do not calculate the number of people who will eventually have higher incomes and will send their children to private schools, thus reducing the burden on the public school system. Any additional expenditures in any given year are the result of changes to a variable in that year.

[43] We recognize that these classifications are somewhat subjective, and the continuum along which we can measure state influence is more refined than "high," "medium," and "low."

this is an issue over which policymakers enjoy some degree of influence[44] and could potentially have a big effect on the budget.

Another "High Impact" factor is federal Medicaid policy. We have already noted that estimates of losses to Kentucky from the proposed Medicaid changes vary, but all agree that we could potentially lose millions and millions of dollars. Unfortunately, federal Medicaid policy is classified as "Low Leverage" because there's not much we can do about what goes on in Washington. But we're not helpless—Medicaid cost is another "High Impact" factor, and it is a "High Leverage" factor, too. In recent years, Kentucky has made its Medicaid program increasingly efficient, and the introduction of managed care beginning in FY1997 is expected to save $170 million a year when the program is mature. Experts say many inefficiencies have now been wrung out of the state Medicaid program, and it would be difficult to introduce many more cost-saving innovations. Nonetheless, we have here an example of how policymakers might combat the effects of a "High Impact-Low Leverage" factor with a "High Impact-High Leverage" factor. The moral of the story is, rarely is there nothing we can do about a "Low Leverage" factor. Innovation and creativity in our policymaking can help the state find new ways of saving money and may give us some maneuverability when we're hit by forces we cannot control. Particularly now that the federal government has begun to fundamentally change its role in financing and overseeing social programs, states will likely have much greater flexibility in designing new solutions to old problems. Managed care for Medicaid is but one example.

We list the change made to each variable and its cumulative, 10-year effect on general fund expenditures in Table 13. These variables are discussed in more detail elsewhere, so we will not spend much time on them here, but consider, for a moment, the effects of lowering "all other" costs. All other general fund spending includes every function of state government besides education, health and human services, and police and corrections. Together, the functions in the "all other" category comprise only 13 percent of general fund spending, yet lowering costs by 10 percent could yield savings of $1 billion over the course of a decade. How can the state lower "all other" costs? The Governor's Commission

[44] Possible changes in federal policy may link capital expenditure funds to states' adoption of "truth in sentencing" laws, in which convicted felons will be required to serve most (about 80 percent to 90 percent) of their sentences. The Governor's Commission on Quality and Efficiency reports that convicted felons in Kentucky presently serve about one-eighth of their actual sentences.

on Quality and Efficiency and the Commission on Kentucky's Government recommend improvements for myriad agencies, departments and operations which we classify as "all other."

TABLE 12: Cumulative Spending Impact of Variables in the Budget Model

Variable	Change from Baseline	Impact* (millions)
Federal Medicaid policy	One of several alternatives Congress is considering to slow Medicaid. In this one, we get $13.3 billion FY1996-FY2002.	$1,969
Match regional primary & secondary educ. spending	Spending 10 percent higher by FY2004	$1,772
Match regional higher education spending	Spending 15 percent higher by FY2004	$1,004
"All Other" costs**	10% lower	-$966
Public school enrollment	Rises from 93% to 97.5% of school-age population by 2004	$886
Medicaid costs	Managed care *is not* implemented or does not bring expected savings	$596
Incarceration rate	Prison population grows at same rate as total population	-$586
Poverty rate	Two percentage points higher by 2004	$555
Technology growth	High tech employment increases at BEA's high-growth rate	$542
Population growth***	State Data Center's high-growth rate	$469
College enrollment	Rises from 31.6 per 100,000 to 33.6 by 2004	$322
Prison costs	10% lower	-$286
Health costs	10% lower	-$269
Welfare Enrollment	AFDC enrollment is gradually reduced by 10% by 2004	-$145
Police costs	10% lower	-$135

* Our model suggests a level of precision which does not truly exist. These expenditure impacts should be considered **ballpark estimates**, nothing more.
** Excludes spending for the four major categories.
*** Population growth also affects revenue in our model.

Source: Kentucky Long-Term Policy Research Center

IMPROVE AND INVEST IN EDUCATION

Perhaps nowhere is innovation and increased efficiency more urgent than in education. Compared to similar states, Kentucky spends less money per student at all levels of the education system. And while we are closing the spending gap at the primary and secondary level, the gap in higher education spending is widening. The Southern Regional Education Board reports that among 15 Southern states, Kentucky had the largest decrease in education funding per college student over the last 10 years. We estimate that Kentucky would have to spend an additional $1 billion over the next decade just to match median spending by our benchmark states.

The Kentucky Education Reform Act of 1990 was a sea change in primary and secondary education. KERA not only created an education

system unique in the history of the Commonwealth, it created a system unique in the United States. Some elements of the reforms are highly controversial, and it will be years before we can see the full effects of KERA. Yet policymakers deserve credit for recognizing that Kentucky cannot be satisfied with business as usual. In 1989, business as usual for primary and secondary education meant great inequalities in funding, high dropout rates and low achievement. We are sounding the alarm that as of today, business as usual for higher education means Spartan funding in coming years. Advocates for higher education in Kentucky say that the lack of funding has already caused Kentucky to lose ground to other states in faculty salaries and technology (Muhs, 1995).

While it is beyond the scope of this report to examine possible education reforms in much detail, we will note that various experts have criticized the higher education system in Kentucky for duplication of services, "turf fights," and lack of coordination, all of which decrease efficiency. Some issues of duplication are structural in nature; for example, some critics believe postsecondary vocational/technical schools and community colleges are uncoordinated and duplicate services. Another structural issue concerns the relationship of community colleges to the eight public institutions.

To increase efficiency, businesses and other private associations might share in the costs and planning of higher education. In Louisville, for example, plastics manufacturers, working together with the Louisville/Jefferson County Office for Economic Development, have begun planning a 520-hour curriculum to be taught at Jefferson Community College (Louisville/Jefferson Co. Office for Economic Development, n.d.). Clearly, any substantial commitment of new state resources to higher education must be accompanied by closer collaboration among institutions and the different agencies responsible for postsecondary education.

CHANGE THE STATE TAX STRUCTURE

When the Commission on Tax Policy began meeting in 1995, its members soon decided to adopt a "revenue neutral" stance. They would not increase or decrease the amount of money Kentucky raised in taxes, just change the mix of property, income, sales and other taxes. Yet some taxes grow more rapidly than others, some are more closely tied to the performance of the economy, some have a bigger effect on investment and retirement decisions. In other words, re-shuffling various taxes may

yield the same revenues today, but 10 years from now revenues could be significantly higher or lower than they otherwise would be. Also, some taxes are more volatile than others, with big increases one year, big decreases the next. If we come to rely more heavily on a volatile tax, we still may have enough revenues on average, but in any single year the state could get a rather unpleasant surprise.

Did You Know...?

The income elasticity of a state tax system is the rate that tax revenues grow relative to growth in personal income. If elasticity is greater than 1.0, revenues grow faster than personal income. If elasticity is lower than 1.0, revenues grow slower than personal income. According to the Office of Financial Management and Economic Analysis, Kentucky's general fund elasticity averaged 1.26 from FY1975 to FY1990. From FY1991 to FY1994, the general fund elasticity averaged 0.55.

Source: Office of Financial Management and Economic Analysis

What combination of property, income, sales and other taxes will grow with the economy and provide enough revenues as spending pressures rise? There is no magic formula, but experts generally agree on the characteristics of a viable tax structure. Steven Gold, a well-known expert in the field of state finance, writes that a state tax system will be more elastic "if it depends heavily on the income tax, if that tax is not indexed, if its rates are steeply progressive, and if no special preferences are given to retirement income" (Gold, 1995, pp. 9-10). Most services, according to Gold, should not be exempt from the sales tax. In the *1995 Kentucky Annual Economic Report*, William Hoyt, an economist at the University of Kentucky, recommends "broadening the base of Kentucky's sales tax so that a larger number of services are subject to the sales and use tax . . . [and] broadening the individual income tax so that public pensions, or at least a portion of them, are subject to the tax" (p. 1). Professor Hoyt also cautions that sales taxes must be applied to services with care in order to avoid undermining the competitiveness of Kentucky's service businesses.

Steven Gold's Center for the Study of the States estimates that the elasticity of state tax systems has fallen over the past 20 years, and state revenues are now growing more slowly than personal income. This is one factor causing states to face structural deficits (1995). Hoyt notes, "the

growth of the base for the sales and use tax has not kept pace with the growth of state expenditures," and he concludes that Kentucky will have to substantially raise the sales tax rate or expand the base if we are to maintain current levels of revenue (1995).

As with education reform, we will not offer many specific recommendations on tax policy. Others have done that for us. With William Hoyt's study, the extensive and detailed work of the Kentucky Commission on Tax Policy, and the analysis of others who have looked at this issue, we have numerous recommendations for changes in the state tax system. (We should note that the Commission on Tax Policy had no authority to enact any of the changes it recommended.) In the absence of tax reform, it seems clear that revenues will not keep pace with expenditures, and state services as they now exist will be compromised. It is highly unlikely that Kentucky will be able to expand its commitment to education (or, for that matter, other kinds of workforce training, economic development or environmental protection) if expenditures *and revenues* continue along their current paths.

Appendix A:
Expenditure Classification

DATA

Data for general fund expenditures and revenues and for transportation fund (also known as road fund) expenditures and revenues are reported in the annual *Supplementary Information to the Kentucky Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, (various years)*. All allotted expenditures and transfers of funds are counted as general fund expenditures. The financial report lists actual (as opposed to budgeted) expenditures and receipts and is therefore the best record of how much money Kentucky takes in and spends each year. The Department for Medicaid Services supplied figures for the health care provider tax revenue and the Council on Higher Education supplied data for tuition and fees.

The annual financial reports list state government expenditures in a hierarchy of units. The largest unit is the cabinet. In addition to the executive branch cabinets, other "cabinets" are universities, the judicial branch, the legislative branch, and general government. Each cabinet is broken down into small units, called departments. Many of the departments are, in fact, commissions, councils, committees, authorities, boards, offices and so forth. Each department is further disaggregated into smaller units.

This report examines state government spending at what we call the functional level—groupings of departments that work to do similar things, such as educate children or administer the justice system. The groupings are done by department rather than by cabinet or by sub-department, for the simple reason that cabinets are too large for detailed analysis, while sub-departmental units are so numerous that the costs of analysis at this level outweigh any marginal benefits.

EXPENDITURE CLASSIFICATION BY FUNCTION

Kentucky's budget expenditures are divided into six functions for the purposes of this study: primary and secondary education, higher education, police and corrections, health and human services, highways and all other. Together, the first four categories account for more than 87 percent of all general fund expenditures. Highways consume minimal general funds, but receive hundreds of millions of dollars from the federal government and the transportation fund.

The process of allocating state government departmental expenditures to one category or another requires a degree of subjectivity, certainly more than determining the revenue sources of the different funds. As the Advisory Commission on Intergovernmental Relations points out, ". . . revenue sources are inherently more discrete conceptually (and legally) than are expenditure functions or categories." (ACIR, Representative Expenditures, p. 8). Thus there may be some room for dispute about the appropriate classification for certain of the 130 different department-level expenditures. Fortunately, most of the classifications are fairly obvious and any reallocation of disputable expenditures would only marginally affect the totals for the different categories.

Primary & Secondary Education — This category includes all expenditures by the Department of Education, as well as the School Facilities Construction Commission, the Kentucky Teachers Retirement System, and the School Building Authority, which was a budget item in the early 1980s. A larger category—*Education*—which would include workforce development and other types of technical and adult education could have been created. This was not done, in part to maintain consistency with the Department of Commerce standards and in part because primary and secondary education expenditures are so large that they would dwarf any other expenditures also included in this category.

Higher Education — Expenditures for this function include Kentucky's eight state universities and the community college system, which is operated by the University of Kentucky. Also included are the Council on Higher Education and the Kentucky Higher Education Assistance Authority.

Police and Corrections — This category includes many departments which drifted into and out of existence over the years. Existing departments included in this category for fiscal year 1994 are the entire Justice Cabinet (which includes the Kentucky State Police), the Department of Public Advocacy and the Unified Prosecutorial System. Not included in this category are departments of the Judicial Branch (distinct from the Justice Cabinet, which is part of the Executive Branch) and the Crime Victims Compensation Board. Departments from past years include the Prosecutors' Advisory Council, the Bureau of Training and the Department of Criminal Justice Training.

Health and Human Services — This category is essentially the Cabinet for Health Services and the Cabinet for Families and Children, plus the Commission on the Deaf and Hearing Impaired and the Department for the Blind.

Highways — This includes expenditures for research, construction, maintenance, debt service, engineering, planning, district operations and equipment services. Also included are highway expenditures for public transportation and rural revenue sharing. Most notable about this category is the fact that general fund expenditures alone amount to almost nothing, while road fund expenditures account for nearly 13 percent of total expenditures.

Appendix B:
State Government Expenditures In FY 1994

Table B.1 — Fiscal Year 1994 Expenditures and Budgetary Weights

No.	Branch/Cabinet	Department	Total FY 1994 Expenditures[45] (000's)	% of Total Expenditures (Weight)
1	LEGISLATIVE	General Assembly/LRC	$ 25,674	0.00440
2	JUDICIAL	Judicial	$ 101,400	0.01737
		Retirement System		
3	REVENUE	Secretary	$ 31,533	0.00540
		Adm. Serv.		
		P.V.A. Acct.		
4		Property Taxation	$ 5,630	0.00096
5		Tax Compliance	$ 20,293	0.00348
6	GEN. GOVERNMENT	U.P.S.	$ 23,735	0.00407
7		Agriculture	$ 11,388	0.00195
8		Attorney General	$ 7,677	0.00131
9		Auditor of Public Accounts	$ 3,408	0.00058
10		Registry of Election Finance	$ 899	0.00015
11		Governor's Office	$ 4,982	0.00085
		Lt. Governor's Office		
		Secretary of the Cabinet		
		GOPM		
12		Local Government	$ 57,560	0.00986
		County Fees		
13		Secretary of State	$ 1,594	0.00027
14		Treasurer	$ 1,328	0.00023
15		Board of Elections	$ 3,615	0.00062
16		Personnel Board	$ 419	0.00007
17		School Facilities Construction Commission	$ 50,647	0.00868
18		Executive Branch Ethics	$ 103	0.00002
19		Human Rights	$ 1,436	0.00025
20		Commission on Women	$ 157	0.00003
21		Personnel	$ 3,952	0.00068

[45] For our purposes, the "state budget" is defined as the sum of the General Fund, the Road Fund, university tuition and the Health Care Provider Tax.

Table B.1, continued

No.	Branch/Cabinet	Department	Total FY 1994 Expenditures (000's)	% of Total Expenditures (Weight)
22		Military Affairs	$ 15,938	0.00273
23	JUSTICE	Secretary	$ 2,043	0.00035
24		Kentucky State Police	$ 70,706	0.01211
25		Corrections	$ 174,579	0.02990
26	EDUC., ARTS, HUM.	Deaf, Hard of Hearing	$ 251	0.00004
27		Ky. Heritage Council	$ 693	0.00012
28		Secretary	$ 4,433	0.00076
29		Education	$ 2,169,004	0.37153
		Teachers' Retirement System		
30		Ky. Educational Television	$ 13,605	0.00233
31		Ky. Historical Society	$ 1,807	0.00031
32		Ky. Center for the Arts	$ 3,024	0.00052
33		Libraries and Archives	$ 11,648	0.00200
34	NAT. RES. & ENV. PROT.	Environmental Protection	$ 19,036	0.00326
		Env. Quality Commission		
		Nature Preserves Comm.		
35		Secretary	$ 6,776	0.00116
		Law		
		Comm./Community Affairs		
36		Natural Resources	$ 8,061	0.00138
37		Surface Mining Reclamation	$ 9,500	0.00163
38	TRANSPORTATION	Highways	$ 587,477	0.10063
39		Other	$ 167,314	0.02866
40	ECONOMIC DVLPMENT	Secretary	$ 3,177	0.00054
		Adm./Supp.		
41		Job Development	$ 1,644	0.00028
42		Financial Incentives	$ 38,209	0.00654
43		Community Development	$ 2,537	0.00043
44	PUB. PROTECT/REG.	Victims Compensation	$ 426	0.00007
45		Tax Appeals	$ 246	0.00004

Table B.1, continued

No.	Branch/Cabinet	Department	Total FY 1994 Expenditures (000's)	% of Total Expenditures (Weight)
46		Racing Commission	$ 819	0.00014
47		Public Service Commission	$ 5,949	0.00102
48		Public Advocacy	$ 10,536	0.00180
49		Secretary	$ 275	0.00005
50		Alocoholic Beverage Control	$ 1,411	0.00024
51		Housing, Bldgs., Construction	$ 2,709	0.00046
52		Mines & Minerals	$ 7,367	0.00126
53	HUMAN RESOURCES	Secretary	$ 42,864	0.00734
		Personnel Management		
		Communications		
		Bldg. Lease Costs		
		Administrative Services		
		Law		
		Inspector General		
54		Hlth, Plan, Cert.	$ 689	0.00012
55		Mental Health/Retardation	$ 115,617	0.01980
56		Hlthcare Data Comm.	$ 391	0.00007
57		Health Services	$ 44,660	0.00765
58		Handicapped Children		
59		Social Insurance	$ 7,869	0.02196
		Soc. Ins. Benefits		
60		Medicaid Serv. Adm.	$ 534,555	0.09157
		Medicaid Serv. Ben.		
61		Social Services	$ 125,998	0.02158
62	FINANCE ADMIN.	Capital Plaza Authority	$ 57	0.00001
63		Flood Control	$ 136	0.00002
64		Secretary	$ 20,146	0.00345
		Legal/Legislative Services		
		Mgt/Fis. Aff.		
		Administration		
65		Facilities Management	$ 12,869	0.00220
66		Special Accounts	$ 400	0.00007

Table B.1, continued

No.	Branch/Cabinet	Department		Total FY 1994 Expenditures (000's)	% of Total Expenditures (Weight)
67		General Obligation Bonds	$	2,052	0.00035
68	TOURISM	State Fair Board	$	5,987	0.00103
69		Horse Park	$	2,051	0.00035
70		Parks	$	21,398	0.00367
71		Secretary	$	1,105	0.00019
72		Travel Development	$	5,394	0.00092
73	LABOR	Secretary	$	203	0.00003
74		Workplace Standards	$	1,382	0.00024
75	HIGHER EDUCATION	Eastern Kentucky University	$	81,394	0.01394
		Kentucky State University	$	23,241	0.00398
		Morehead State University	$	49,430	0.00847
		Murray State University	$	55,784	0.00955
		Northern Kentucky University	$	55,801	0.00956
		University of Kentucky	$	316,071	0.05414
		UK Community Colleges	$	106,865	0.01830
		University of Louisville	$	187,027	0.03203
		Western Kentucky University	$	77,816	0.01333
		Council on Higher Education	$	7,630	0.00131
		Ky. Higher Ed. Asst. Auth.	$	20,198	0.00346
76	WORKFORCE DVLP.	Secretary	$	14,270	0.00244
77		Blind	$	1,319	0.00023
78		Bd. Of Adult/Tech. Education	$	33	0.00001
79		Technical Education	$	20,198	0.00346
80		Adult Ed./Literacy	$	6,037	0.00103
81		Voc. Rehabilitation	$	6,416	0.00110
82		Governor's Commission on Literacy	$	13	0.00000
	ALL AGENCIES	**sum**	**$**	**5,837,971**	**1.00000**

Appendix C:
Trends And Budget Questionnaire

To learn more about long-term budgetary implications of the array of trends affecting Kentucky, we divided the state budget by agency into 82 discrete units (see Appendix B) and sent questionnaires to those responsible for planning and managing the funds for these units.[46] The questionnaire is shown in this appendix. We asked these individuals to examine an array of trends and evaluate their long-term impact on the budget of the agency they represent.

[46] The Commissioner of Education advised us to send questionnaires to the 39 members of the Commissioner's Advisory Council to gauge their reaction to the trends as they relate to primary and secondary education. This Council is comprised of school district superintendents from diverse areas of the state.

QUESTIONNAIRE

- Please describe in one or two sentences the overall mission or purpose of your department.
- We would like to understand the impact of these trends on your department's budget over the next 10 years. For example, if you believe a trend will require a large increase in your department's expenditures during the next decade, indicate this by circling '++' for the trend. Likewise, if the trend will allow your department to significantly reduce its expenditures in the coming decade, circle '--'. A single '+' reflects a moderate increase in expenditures and a single '-' represents a moderate decrease. If the trend will not affect your department or will have only a negligible effect, circle '0'. Please evaluate each of the trends and indicate the impact that you believe will occur over the next 10 years.

	Expenditure Reduction			Expenditure Increase	
Trend	**Large**	**Moderate**	**No Effect**	**Moderate**	**Large**
1.	– –	–	0	+	+ +
2.	– –	–	0	+	+ +
3.	– –	–	0	+	+ +
4.	– –	–	0	+	+ +
5.	– –	–	0	+	+ +
6.	– –	–	0	+	+ +
7.	– –	–	0	+	+ +
8.	– –	–	0	+	+ +
9.	– –	–	0	+	+ +
10.	– –	–	0	+	+ +
11.	– –	–	0	+	+ +
12.	– –	–	0	+	+ +
13.	– –	–	0	+	+ +
14.	– –	–	0	+	+ +
15.	– –	–	0	+	+ +
16.	– –	–	0	+	+ +
17.	– –	–	0	+	+ +
18.	– –	–	0	+	+ +
19.	– –	–	0	+	+ +
20.	– –	–	0	+	+ +
21.	– –	–	0	+	+ +
22.	– –	–	0	+	+ +
23.	– –	–	0	+	+ +
24.	– –	–	0	+	+ +
25.	– –	–	0	+	+ +
26.	– –	–	0	+	+ +
27.	– –	–	0	+	+ +
28.	– –	–	0	+	+ +
29.	– –	–	0	+	+ +
30.	– –	–	0	+	+ +
31.	– –	–	0	+	+ +
32.	– –	–	0	+	+ +
33.	– –	–	0	+	+ +
34.	– –	–	0	+	+ +
35.	– –	–	0	+	+ +
36.	– –	–	0	+	+ +
37.	– –	–	0	+	+ +

- Are there other trends that you know will affect your programs or budgets over the next 10 years that are not listed on the questionnaire? If so, please tell us about them.

- We would like to get more detail on the three most important trends that you believe will affect your department's budget over the next 10 years. Which three trends (including any you listed above) do you believe will exert the most influence over future budgets, and, more importantly, in what way do you believe these trends are the most important?

    1.

    2.

    3.

TRENDS AFFECTING THE COMMONWEALTH: WHAT IS THEIR LONG-TERM IMPACT ON THE STATE'S GENERAL FUND?

THE PEOPLE OF KENTUCKY

1. ***Demographic trends suggest that Kentucky will experience only moderate population growth in the years to come***, in spite of the high rate of growth it has enjoyed in the early 1990s. The stagnation of Kentucky's population during the 1980s, which is largely attributable to substantial out migration, particularly among young people, poses questions about the viability of Kentucky's future labor force.

2. ***The homogeneity of Kentucky's population has also persisted in recent years***, a trend that may not bode well for the almost certain advance of globalization of commerce, which will demand high levels of comfort with diverse peoples and cultures. States that are perceived as economically or socially inhospitable to minorities may risk accelerated decline in their minority populations and, in turn, undermine their competitiveness.

3. ***Kentucky is expected to retain its essentially rural character for some time to come*** and, as a consequence, delay or avoid the arrival of some of the problems urbanization brings — congestion, crime and pollution. The beauty and the quality of life this rural strength enables may hold enormous future appeal for those in flight from urban congestion and crime.

CHANGING FAMILY STRUCTURES

4. ***More children live in households headed by single parents, who are much more likely to be poor*** as a result of the increased incidence of divorce and a growing number of births to unmarried women.

5. ***A combination of factors is influencing our population and the family structures it forms, but none is more pronounced than the state's sharply declining birth rate***. Contrary to stereotypes, Kentucky registered the 49th lowest birth rate in the nation during the 1980s, signaling the strong possibility of continued population decline in the state's population of young people under age 18.

6. ***As more of us choose to live alone and families continue to fragment, the number of households has risen while the number of people living in them has declined***. While household formation continues to outpace population growth, the trend actually peaked in the 1970s. Nevertheless, the rapid expansion of households has

triggered widespread, if belated, attention to the implications for families, the environment and a fraying community fabric.

OLDER AND WISER?

7. ***The aging of our population is perhaps the most striking population trend affecting Kentucky***. This trend will persist and deepen over the first half of the 21st Century. It is revealed by an emerging middle-age population bulge, a decrease in the number of Kentucky children and an increase in those in their middle and older years.

8. ***Because older Kentuckians are disproportionately poor, the aging of our population may be attended by expanded poverty***. Rural states like Kentucky are often strained to provide much needed support services for older people, for which the demand is certain to expand.

GENERATIONS AT ODDS

9. ***Converging economic and demographic trends may exacerbate tensions between the generations in the years to come***. The conflicting economic and social interests of young and old are pushing the issue of generational equity, the distribution of public resources in terms of need rather than age, higher on the public agenda, in spite of the attendant political risk.

CHANGING ECONOMIC PARADIGMS

10. ***Virtually unlimited global competition has placed extraordinary demands on business and industry and, in turn, on workers, who have scrambled to build higher quality products, in less time, at a lower cost***.. This seemingly limitless world marketplace is challenging Kentucky firms and their employees to meet rising product and performance goals.

11. ***The long heralded Information Age has arrived and exerted a powerful influence on the way we work and live***. Technology is accelerating the rate of change and creating an explosion of opportunities for highly skilled workers and innovative firms.

A SHIFTING ECONOMIC FLOOR

12. ***While Kentucky's coal industry has logged record production levels in recent years, employment in this high-wage industry has fallen sharply***, largely as a consequence of technological advancements and the consolidation or closure of mine operations. Over the long term, rising environmentalism and the implementation of current and anticipated regulations complicate the utilization of Kentucky's coal reserve.

13. ***The future of burley tobacco, which is being influenced by declining use and increased imports of leaf, presents the most significant threat to farming and farmers in the state***. In decline by several measures, including employment, farm population and cultivated land, Kentucky's farm economy nevertheless enjoys record output, as farming methods and equipment advance productivity. However, the vulnerability of its key crop — tobacco — has created significant uncertainty.

14. ***Predicted to decline nationally in coming years, manufacturing nevertheless is making dramatic gains in Kentucky's economy, outpacing the nation in terms of jobs and gross product***. Kentucky produces a diverse range of manufacturing products; however, the predominance of small, often insufficiently capitalized firms, an inadequate base of intellectual capital, skilled workers, and technological know-how may inhibit our ability to compete in the global marketplace.

15. ***Kentucky hardwoods are prominent in the U.S. marketplace, but the virtual absence of an important second tier of value-added wood products industries prevents the state from capturing the full benefit of this abundant resource***. Approximately 70 to 75 percent of the 700 million board feet of grade lumber cut here annually is shipped out of state in an unprocessed state. Development of the enormous potential the secondary wood industry holds for Kentucky's long-term economic prospects will require investment in expertise, entrepreneurial initiatives, and careful attention to the cultivation of an ethic of stewardship that will help sustain this abundant resource.

16. ***As our population ages, the store of historical sites in Kentucky and the state's ready accessibility are expected to increase its appeal to tourists, magnifying the economic benefit of tourism to Kentucky***. While it is viewed as a viable, sustainable option for the development of rural communities, tourism is not an antidote to poverty for those holding seasonal or marginal quality jobs.

17. ***Small enterprises are expected to be the engine of our future economy, fueled by expertise, capital and a broad-based commitment to their development***. As the small-business sector of the economy continues to create the lion's share of new opportunities, the importance of enabling entrepreneurs rises. Much of the state's future success in cultivating small enterprises and the opportunities they will yield hinges on the availability of expertise — managerial and technical — and capital.

CHASING THE DREAM

18. ***Increasingly, the notion of lifetime employment is now widely viewed as an anachronism, and hard work is no longer an assurance of anything***. For many workers, the American Dream has become more elusive and the pursuit of it a frantic chase. The employer-employee contract is becoming more tenuous, as firms meet global competition with fewer, less costly employees, many of whom work part-time or on a contingency basis. Wages have stagnated and, at the same time, employee benefit packages are shrinking or disappearing.

19. ***The percentage of poor working families in Kentucky grew during the 1980s and continued to exceed that of the nation as whole***. Rising levels of contingency employment, the ascendance of low-wage industries, a reciprocal decline of high-wage industries, low labor force participation, and the types and the mix of jobs industry is bringing to the state are influencing wage levels.

20. ***In Kentucky, income inequality became more pronounced over the most recent decade***. Increasingly, economists view deepening disadvantage as a problem with broad-based implications. Falling U.S. wages have been accompanied by the rise of income inequality and what many analysts believe is a shrinking middle class. The impoverishment and decline that inequality fosters is believed to discourage investment and, in turn, adversely affect productivity.

21. ***The importance of forging joint worker-manager efforts to address emerging problems is rising on the policymaking landscape***. As more workers face growing uncertainty fueled by stagnant wages, diminishing benefits, continued layoffs, and the prospect of rising workloads and work hours, the critical relationship between worker and employer is being undermined.

FISCAL HEALTH

22. ***Kentucky's fiscal structure is characterized by a heavy concentration of taxing and spending at the state level, more so than in other states***. Consequently, the people of Kentucky rely heavily on state government to provide services, financing, infrastructure and leadership on matters that are traditionally the obligations or prerogatives of local governments in other states.

23. ***A burden on city and county budgets which has received particular scrutiny in recent years is unfunded federal mandates, which are exerting increasing fiscal pressure on local governments***. Despite the concentration of fiscal responsibilities at the state level, the finances of counties, cities and special districts are extremely important. Indeed, local governments are

responsible for a quarter of total state and local expenditures in Kentucky.

TRANSPORTATION

24. ***A number of forces now at work will expand the role of other modes of transportation and dramatically alter the transportation planning process***. A quality transportation system will be critical to Kentucky's future prosperity. Highways, the quality of which is improving even as use expands, are the traditional backbone of this system, and they will continue to be so in coming years. Federal legislation, environmental considerations, competition for business and technological advances will affect the modes chosen to deliver needed services in the future.

ENVIRONMENTAL INTEGRITY

25. ***The quality of Kentucky's water continues to improve, but substantial investment in infrastructure will be required in coming years, to safely treat wastewater and extend public drinking water to more Kentuckians***. New approaches to managing pollution are likely to focus on the source, rather than the outcome, of water pollution.

26. ***Kentucky's air quality has improved dramatically since the enactment of the federal Clean Air Act in 1970, the provisions of which have led to significant reductions in levels of harmful pollutants, such as lead and carbon monoxide***. When fully enforced, the federal Clean Air Act Amendments of 1990 are expected to dramatically reduce air pollution, but they will have an as yet undetermined impact on the state's coal industry.

27. ***Programs to promote waste reduction and recycling will likely increase, as landfill disposal costs rise and more markets for recyclables become available***. Timely legislation has checked the influx of out-of-state garbage, but management of Kentucky's solid waste continues to challenge policymakers at every level.

NEW PRESCRIPTIONS FOR HEALTH CARE

28. ***Health care emphasis is shifting to health promotion and disease prevention as a means of making health care more accessible and affordable while retaining quality***. A higher level of cooperation among individuals, private service providers and government is expected to emerge as well. Advanced applications of technology and more active involvement of communities will overarch these trends, as we attempt to create a more manageable, useful and equitable health care system.

A FUTURE IMPERILED BY POVERTY

29. ***From one-fourth to nearly one-half of Kentucky's children live in poverty***. Research has consistently confirmed that poverty adversely affects the health and educational attainment of children reared under its mantle, and in turn, the productivity and independence of their adult lives.

TOWARD LIFELONG LEARNING

30. ***By virtually every measure, Kentuckians are undereducated and ill prepared to meet the challenges that the future will bring***. Prominent among the litany of often repeated deficiencies are high dropout rates, a low rate of college attendance and one of the highest percentages of adults in the nation who do not have a high school diploma. While significant and even dramatic progress is being made, Kentucky still has far to go in its drive to close persistent education and training deficits.

31. ***The Kentucky Education Reform Act has yielded measurable improvements in the performance of students and engaged thousands of parents, teachers and administrators in a new way of thinking about education***. In spite of its ranking at or near the bottom of the 50 states in many aspects of educational attainment, Kentucky has ascended to national prominence in educational reform.

32. ***By the turn of the Century, the majority of U.S. workers will need more than a high school diploma***. Increasingly, educational need has extended beyond the basics provided by a high school education. As the demand for highly trained workers who have a solid intellectual foundation continues to expand, the importance of honing the skills of new and current workers is critical.

33. ***While higher education continues to provide the intellectual capital needed to meet future challenges, cost poses an increasingly formidable obstacle to its benefits***. Knowledge and the analytical and creative skills higher education enables are becoming central to our lives. Unfortunately, competing and compelling needs have eroded once generous public funding for higher education, challenging administrators to do more with fewer state dollars and prompting closer scrutiny at every level.

RESPONDING TO CRIME

34. ***Data on violent crime suggest it may be rising in Kentucky***. At the same time, however, Kentucky's crime rate is quite low and only a fraction of regional (South) and national crime rates.

35. ***Juvenile arrests for serious offenses have also risen in Kentucky***.

36. ***Predictably, prison populations have risen accordingly***. Over the past 20 years, the rate of incarceration has increased 233 percent in Kentucky. The rising costs associated with increased incarceration are challenging policymakers to discover and implement alternatives to prison. As an important starting point, Kentucky's criminal justice system has begun to explore mediation as an alternative to litigation and to shift nonviolent offenders to less costly facilities or to home incarceration.

BUILDING SOCIAL CAPITAL

37. ***While hopeful signs of rising engagement can be detected in the civic life of Kentucky, many community activists observe that, for a variety of reasons, civic engagement is inadequate and, therefore, self-limiting***. Despite this, government must, as a matter of routine, turn to citizens for guidance, direction and support, if it hopes to build the social capital on which successful development relies. The effectiveness of government in the future will depend upon the ability of its leaders to overcome cynicism, alienation and even despair among the citizens it serves and build the social capital or citizen participation needed to meet the challenges before us. Research shows that those communities and regions which enjoy high levels of civic engagement are far more prosperous.

Appendix D:
Model Estimation and Equations Used in the Forecast

Equation 1: Annual growth in per pupil prim./sec. education spending

N	R^2	DW	Variable	Coefficient	t-Statistic
17	.2232	1.710	Constant	0.256597	0.630
			SIC 737/(SIC 737_{-1})	0.761686	2.076

Equation 2: Median per student higher education spending by benchmark states

N	R^2	DW	Variable	Coefficient	t-Statistic
16	.9781	0.718	Constant	4.051062	25.428
			log(SIC 737)	0.630075	25.017

Equation 3: Annual tuition revenue

N	R^2	DW	Variable	Coefficient	t-Statistic
11	.9922	2.432	Constant	3.714848	6.319
			log(Tuition rate)	1.032333	10.477
			Enrollment	0.008607	6.102

Equation 4: Other human services expenditures

N	R^2	DW	Variable	Coefficient	t-Statistic
19	0.8125	2.249	Constant	11.175013	38.362
			Medicaid dummy	-0.547283	-4.375
			Number of poor	0.001516	2.301
			Time	0.044867	2.508

Police Expenditures = Total Population * 1994 Cost Per Capita * Inflation Index

Corrections Expenditures = Prison Population * 1994 Cost Per Prisoner * Inflation Index * 1.25
(Expenditures increased by 25 percent to account for administration and other costs)

Medicaid Expenditures
1995-1998 Cabinet for Health Services cost and enrollment projections.

After 1998:
Aged Expenditures = Population over 65 * 9% * 1994 Cost Per Aged Eligible * Inflation Index

QMB Expenditures = Population over 65 * 5.5% to 6.5% * 1994 Cost Per QMB Eligible * Inflation Index
(Assumed growth in percentage of elderly population eligible as QMB.)

Disabled Expenditures = Total Population * 4% to 5.75% * 1994 Cost Per Disabled Eligible * Inflation Index
(Assumed growth in percentage of population eligible as Disabled.)

Blind Expenditures = Total Population * .05% * 1994 Cost Per Blind Eligible * Inflation Index

AFDC & Related Expenditures = Total Population * Poverty Rate * 46% * 1994 Cost Per AFDC & Related Eligible * Inflation Index
(46% is approximate percentage of poor population eligible as AFDC or related.)

Health and Hospitals Expenditures = Total Population * 1994 Cost Per Capita * Inflation Index

Other Human Services Expenditures = exp(10.62773 + 0.044867 * Time + 0.001516 * Poverty Rate * Total Population)

Higher Education Expenditures = Higher Education Cost Per FTE * Kentucky's Percentage of Benchmark Median * FTE Enrollment Rate * Total Population) * 1.61
(1.61 is adjustment to include research, agriculture and medical school expenditures.)

Higher Education Cost Per FTE = (exp(4.051062 + 0.630075 * ln(SIC 737 employment))

Tuition Revenue = exp(3.714848 + 1.032333 * ln(Tuition Rate) + 0.008607 * FTE Enrollment Rate * Total Population)

Prim. & Sec. Education Expenditures = (School-Age Population * Public School Enrollment Rate * (1 + 0.25 * Poverty Rate)) * Cost Per Student * Change in Prim. & Sec. Education Cost Per Student

Change in Prim. & Sec. Education Cost Per Student = (0.256597 + 0.761686 * Change in SIC 737 Employment)

Other Expenditures = Total Population * 1994 Cost Per Capita * Inflation Index

Revenue = Total Real Income Projected by BEA / Moderate Population Projection * High Population Projection (through 2000, then Moderate Population Projection through 2004) * 7.055%

Appendix E:
Variable Assumptions Used in the Forecast

Annual Growth Variables

Variable Name	Assumption	Source
Personal income (real)	1.9%	Bureau of Economic Analysis
High-tech employment	5.3%	Bureau of Labor Statistics
Inflation	3.1%—3.4%	Congressional Budget Office
Medical inflation	7.4%	Bureau of Economic Analysis
Medicaid inflation		
Medicaid--Aged	9.4%—10.5%	Cabinet for Health Services
Medicaid--Disabled	3.1%—4.5%	Cabinet for Health Services
Medicaid--Blind	7.9%	Cabinet for Health Services
Medicaid--AFDC	2.8%—6.5%	Cabinet for Health Services
Medicaid--QMB	9.9%—10.5%	Cabinet for Health Services
Health Care Provider Tax Revenue	5%	Based on medical inflation rate

Fixed Percentage Variables

Variable Name	Assumption	Source
Poverty rate	20.6%	Bureau of the Census
Share of Medicaid costs	30%	Kentucky is currently a 30% state
School-age kids in public school	90%	National Center for Education Statistics
Higher education funding per student	83.5% of benchmark	Halstead, 1994

General fund as percent of personal income	7.055%	Office of Financial Management and Economic Analysis

Other Variables

Variable Name	Assumption	Source
Population	High 1995-2000 Moderate 2001-2004	Kentucky State Data Center
Income elasticity of general fund revenue	1.00	Office of Financial Management and Economic Analysis
Full-time college enrollment per 1,000	31.6	Halstead, 1994

Appendix F:
Methodological Issues Related to the Expert Survey

INTRODUCTION

In this appendix we discuss the rationale and method for weighting questionnaire answers according to an agency's budget share. Then we explain the method for creating the budget impact score.

WEIGHTING RESPONSES ACCORDING TO BUDGET SHARE

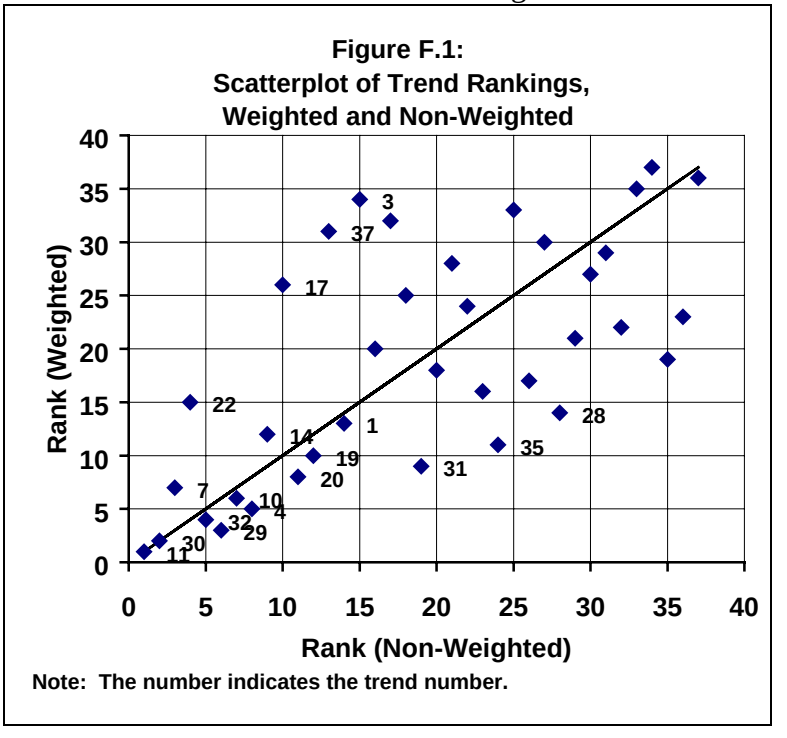
The answers of each respondent are weighted by a factor that is equal to their agency's percentage of the total budget. We weighted responses because only a few agencies account for large portions of the budget while several agencies account for small fractions of the budget. We decided that we could not accurately gauge a trend's future impact on the total state budget if we did not consider these differences. So, if agency X accounts for 10 percent of the state budget and agency Y accounts for 1 percent, then agency X's assessment of the trends is given 10 times more weight than agency Y's.[47]

We get different results by weighting the responses than if we simply allow each questionnaire to carry the same weight. While seven of the top 10 trends remain the same, a slightly different picture emerges concerning the trends likely to exert the strongest upward pressure on the state's budget over the next 10 years. This is illustrated in Figure F.1. A point on the slope (i.e., the diagonal line in Figure F.1) indicates that the trend has the *same* ranking regardless of whether responses are weighted by budget share. There are two points, or trends, on this slope—trends 11 (Information Age) and 30 (Adult Education).[48] These two trends are ranked first and second regardless of whether a weighting is applied. This

[47] Since the budgets of primary and secondary education and higher education are so large, we compiled these responses differently to avoid a situation in which 1 or 2 questionnaires (i.e., individuals) dominate the overall results. There were 22 responses in the primary/secondary education category and 8 in the higher education category. For both of the education categories, the responses were aggregated and given equal weight. Then, the average response resulting from the 22 education questionnaires is given the total education weight of .3715 (refer to number 29, Table B.1 in Appendix B). The same method was used for higher education. There were 8 responses and their collective weight is .1681 (see number 75, Table B.1).

[48] Refer to Appendix C where the trends are listed in the questionnaire from 1 to 37. The trend numbers in the questionnaire correspond to the numbers in Figure F.1.

scatterplot illustrates how weighting the responses according to budgetary share makes a difference in the relative ranking of most trends.



EXPENDITURE IMPACT SCORE

We developed an "Expenditure Impact Score" to gauge the *relative* importance of a trend on the state budget over the next several years. A higher score suggests an expectation of a larger upward pressure on future state budgets. A trend's position on this scale is a function of two things: the percentage of "positive" scores it received on the questionnaires and the proportion of the state budget it will likely impact.

Another weighting issue we faced as we developed our budget impact scale is the quantitative relationship between a moderate and significant increase or decrease. Specifically, the question we asked ourselves was, "How much bigger is a *significant* increase or decrease compared to a *moderate* increase or decrease?" Since we have no way of knowing precisely, it is important to test the sensitivity of our results to a variety of assumptions. We conducted three simulations to test whether it makes a difference if a significant increase or decrease (i.e., the "tails") are weighted either a 1, 2 or 3 while a moderate increase or decrease is weighted a 1. The ratio to the maximum score is derived for each trend

in each simulation. These three ratios are then averaged to obtain an average impact score. These scores are listed in descending order of expected impact on the total budget in the last column of Table F.1. These are the top 10 trends illustrated in Figure 7. This simulation reveals that the rankings are fairly robust regardless of the weighting scheme.

TABLE F.1: Trends Likely to Exert Upward Pressure on Future Budgets

Trend	Score If Tails Are Weighted '1-1'	Ratio to Maximum Score	Score If Tails Are Weighted '2-2'	Ratio to Maximum Score	Score If Tails Are Weighted '3-3'	Ratio to Maximum Score	AVG. IMPACT
11	0.8012	0.917	1.2953	1.000	1.7894	1.000	0.9722
30	0.8740	1.000	1.2242	0.945	1.5743	0.880	0.9416
29	0.7787	0.891	1.1400	0.880	1.5013	0.839	0.8700
32	0.7247	0.829	1.0513	0.812	1.3780	0.770	0.8036
4	0.7412	0.848	1.0189	0.787	1.2965	0.725	0.7864
10	0.7511	0.859	0.9495	0.733	1.1479	0.641	0.7446
20	0.7276	0.833	0.8137	0.628	0.8998	0.503	0.6545
7	0.5889	0.674	0.8186	0.632	1.0484	0.586	0.6305
19	0.6108	0.699	0.7857	0.607	0.9605	0.537	0.6141
31	0.5618	0.643	0.7977	0.616	1.0336	0.578	0.6120

Appendix G:
General Fund Expenditures, By Category

Year	Total General Fund Expenditures		Prim. and Sec. Education		Higher Education		Police and Corrections		Health and Human Services		Highways		All Other	
	Exp.	1-yr. growth	Exp.	% of G.F.	Exp.	% of G.F.	Exp.	% of G.F.	Exp.	% of G.F.	Exp.	% of G.F.	Exp.	% of G.F.
1976	1 052 751		437 281	41.54%	188 162	17.87%	52 113	4.95%	167 525	15.91%	0	0.00%	207 670	19.73%
1977	1 266 614	1.20	504 137	39.80%	221 392	17.48%	60 128	4.75%	209 069	16.51%	0	0.00%	271 888	21.47%
1978	1 496 340	1.18	677 240	45.26%	241 978	16.17%	69 821	4.67%	234 117	15.65%	0	0.00%	273 184	18.26%
1979	1 708 414	1.14	779 623	45.63%	286 785	16.79%	90 421	5.29%	264 499	15.48%	0	0.00%	287 086	16.80%
1980	1 865 655	1.09	865 177	46.37%	314 661	16.87%	101 609	5.45%	286 404	15.35%	0	0.00%	297 804	15.96%
1981	1 942 272	1.04	919 978	47.37%	320 240	16.49%	117 719	6.06%	323 906	16.68%	0	0.00%	260 429	13.41%
1982	2 079 795	1.07	951 548	45.75%	349 882	16.82%	128 977	6.20%	345 653	16.62%	0	0.00%	303 735	14.60%
1983	2 261 952	1.09	1 061 189	46.91%	381 061	16.85%	131 731	5.82%	359 774	15.91%	435	0.02%	327 762	14.49%
1984	2 426 929	1.07	1 143 879	47.13%	418 734	17.25%	143 642	5.92%	385 830	15.90%	631	0.03%	334 213	13.77%
1985	2 476 739	1.02	1 161 846	46.91%	427 206	17.25%	161 004	6.50%	412 877	16.67%	645	0.03%	313 221	12.65%
1986	2 654 474	1.07	1 219 017	45.92%	453 680	17.09%	177 131	6.67%	424 097	15.98%	680	0.03%	379 869	14.31%
1987	2 914 240	1.10	1 387 542	47.61%	476 969	16.37%	182 982	6.28%	467 194	16.03%	308	0.01%	399 245	13.70%
1988	3 207 408	1.10	1 539 931	48.01%	522 656	16.30%	198 790	6.20%	517 718	16.14%	963	0.03%	427 350	13.32%
1989	3 302 649	1.03	1 567 496	47.46%	558 406	16.91%	174 373	5.28%	553 494	16.76%	529	0.02%	448 351	13.58%
1990	3 525 992	1.07	1 651 541	46.84%	589 816	16.73%	199 537	5.66%	586 764	16.64%	364	0.01%	497 970	14.12%
1991	4 182 621	1.19	1 947 877	46.57%	654 533	15.65%	268 635	6.42%	725 719	17.35%	1488	0.04%	584 369	13.97%
1992	4 533 793	1.08	2 149 402	47.41%	696 199	15.36%	280 669	6.19%	789 533	17.41%	1169	0.03%	616 821	13.60%
1993	4 520 161	1.00	2 157 516	47.73%	674 131	14.91%	247 506	5.48%	848 951	18.78%	1337	0.03%	590 720	13.07%
1994	4 639 542	1.03	2 219 651	47.84%	693 000	14.94%	252 849	5.45%	874 073	18.84%	573	0.01%	599 396	12.92%

Resources

Barrett, K., and Greene, R. (1995, September 26). State of the states 1995: Tick, tick, tick. *Financial World, 164*, 36-39.

Berger, M. C., Black, D. A., Chandra, A. (1995). Uneven tides: Regional trends in economic growth in Kentucky, 1969-1992. *Kentucky Annual Economic Report.* Lexington, KY: University of Kentucky, Center for Business and Economic Research.

Clemons, J. (1994). *Kentucky's highway system.* Unpublished white paper submitted to the Kentucky Long-Term Policy Research Center by the Kentucky Association of Highway Contractors.

Congressional Budget Office. (1995). *The economic and budget outlook.* Washington, DC: Government Printing Office.

Dedicated dollars. (1995, September). *Governing, 9,* 54.

Geiger, B. (1995, April 5). State's schools ranked high in technology. *The Lexington Herald-Leader*, pp. B1, B10.

Giertz, J. F., McGuire, T., and Nowlan, J. (1995). *The Illinois structural deficit dilemma: The growing gap between state expenditures and revenue realities.* Champaigne-Urbana, IL: University of Illinois, Institute of Government and Public Affairs.

Gleckman, H., Maremont, M., Schine, E., Therese-Palmer, A., and Hoffman, J. (1995, November 20). Rewriting the social contract. *Business Week*, 120-134.

Gold, S. (1995a, January). *Is the state fiscal crisis over?* Albany, NY: State University of New York, Center for the Study of the States.

_____ (1995b, June). Steve Gold's fiscal notebook. *Governing, 9*, 49.

Governor's Commission on Quality and Efficiency. (1994). *Wake-up call for Kentucky: Out of crisis into action.* Frankfort, KY: Author.

Graham, E. (1995, August 11). Study now, pay later: Students pile on debt. *The Wall Street Journal*, pp. B1, B3.

Halstead, K. (1994, October). *State profiles: Financing public higher education 1978 to 1994*. Washington, DC: Research Associates of Washington.

Hoyt, W. H. (1995). The Kentucky Tax System: Problems and Options. *Kentucky Annual Economic Report.* Lexington, KY: University of Kentucky, Center for Business and Economic Research.

Kelly, K., Melcher, R., Garland, S., Zellner, W., and Fins, A. (1995, August 7). Power to the states: Are they ready? *Business Week*, 48-56.

Kelly, K., Weber, J., DeGeorge, G., and Palmer, A. (1995, December 11). Enjoy it while it lasts. *Business Week*, 34-36.

Kentucky Council on Higher Education. (1994). *Kentucky Institutions of Higher Education Information Digest, 1984-1993*. Frankfort, KY: Author.

Kentucky Economic Development Cabinet. (1995). *Kentucky Deskbook of Economic Statistics.* Frankfort, KY: Author.

Kentucky Finance and Administration Cabinet. (1994, June). *1994-1996 Budget of the Commonwealth: Budget in brief*. Frankfort, KY: Author.

_____. (various years). *Supplementary Information to the Kentucky Comprehensive Annual Financial Report for the Fiscal Year Ended June 30*. Frankfort, KY: Author.

Lawson, J. (1995, October 12). State to use managed care for Medicaid. *The Courier Journal*, pp. A1, A9.

Lemov, P. (1995a, May). The Medicaid numbers game. *Governing, 9*, 27-28.

_____ (1995b, December). Patching the fiscal umbrella. *Governing, 9*, 39-40.

Louisville/Jefferson Co. Office for Economic Development. (n.d.). *Industry Networks*. Louisville, KY: Author.

Managing unruly desktop computers. (1995, February 16). *The Wall Street Journal*, p. A1.

Muhs, A. (1995, September 7). Kentucky college funding drops most in region. *The Lexington Herald-Leader*, pp. B1, B3.

National Association of State Budget Officers. (1995, July). *Budget stability: A policy framework for states*. Washington, DC: Author.

National Center for Education Statistics. (various years). *Digest of Education Statistics*. Washington, DC: U.S. Government Printing Office.

Ranking the 50 states. (1995, February). *Governing, 9*, 32-33.

Rafuse, R., Jr. (1990, December). *Representative expenditures: Addressing the neglected dimension of fiscal capacity*. Washington, DC: U.S. Advisory Commission on Intergovernmental Relations.

Reynolds, L., Masters, S., and Moser, C. (1987). *Economics of labor*. Englewood Cliffs, NJ: Prentice-Hall.

Silvestri, G., (1993, November). Occupational employment: Wide variations in growth. *Monthly Labor Review*. Washington, DC: U.S. Government Printing Office.

Smith-Mello, M. and Schirmer, P. (1994). *The context of change: Trends, innovations and forces affecting Kentucky's future*. Frankfort, KY: The Kentucky Long-Term Policy Research Center.

Urban Institute and Price Waterhouse. (1988, November). *Fiscal affairs of state and local governments in Nevada*. Washington, DC: Authors

U.S. Bureau of Economic Analysis, Regional Economic Measurement Division. (1994, May). *Regional Economic Information System* [CD-ROM]. Washington, DC: Author.

U.S. Bureau of Labor Statistics. (1995). *Personal income, gross state product and employment for regions and states, selected years 1983-2005*. [On-line] Available gopher://una.hh.lib.umich.edu:70/00/ebb/regional/press.